

STEP2CleanPlan

Module 3: Reporting and Review

Submodule 301: Review, local adoption and harmonization of methodologies for calculating emissions with EU greenhouse gas policies.

301 B: Emission Sources in Uzunköprü

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS. UNION

STEP2CleanPlan BSB00004



Aim

- Identifying the main sources of hydroelectric power emissions in Uzunköprü
- Monitoring and planning at the local government level
understanding its importance
- To learn about the relationship between national HS classifications and SECAP for
topics such as agriculture, transportation, buildings, and waste management.

Opening Question & Interaction

- Question: 'In your opinion, what is the most relevant area regarding climate change in Uzunköprü?'
- SECAP's contribution to the district: funding, planning, reputation



- Livestock farming, fertilizer applications, and stubble burning are the main sources.
- Methane (CH_4) and nitrous oxide (N_2O) emissions are significant.
- The method of storing animal waste is critical.

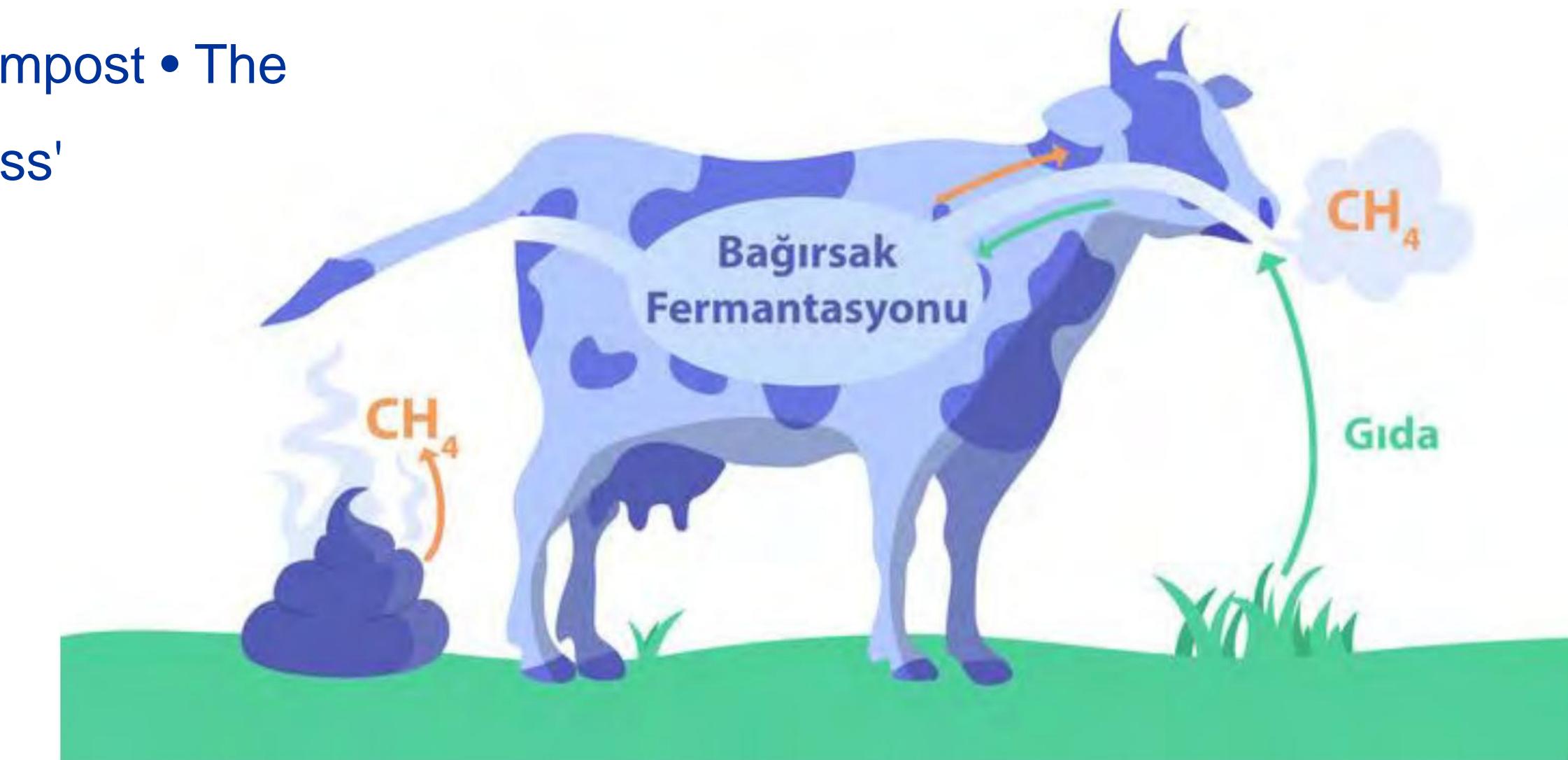
Agricultural Emissions



Emissions in Agriculture – Details

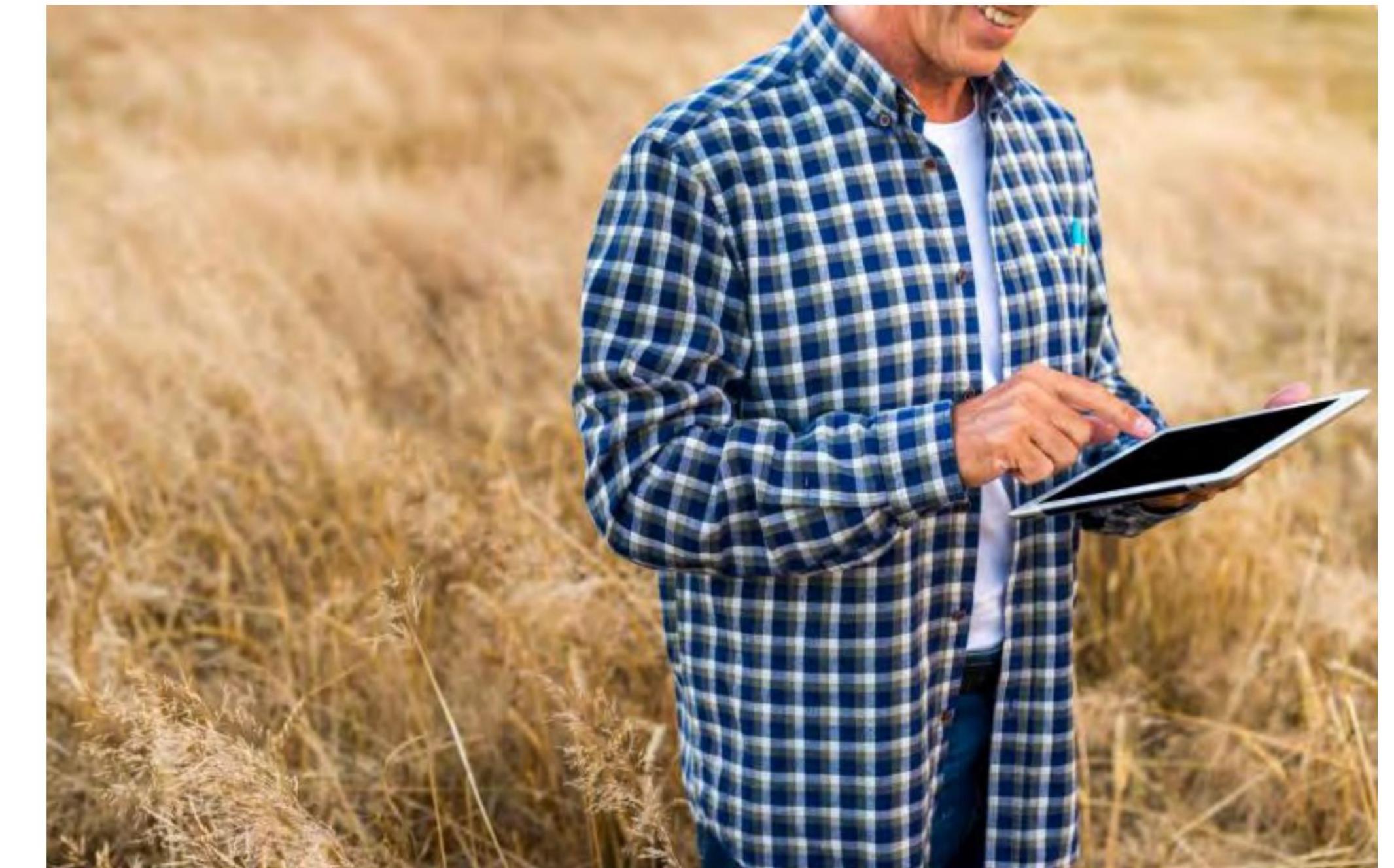
- Enteric fermentation •

Open manure storage and lack of compost • The misconception that 'natural is harmless'



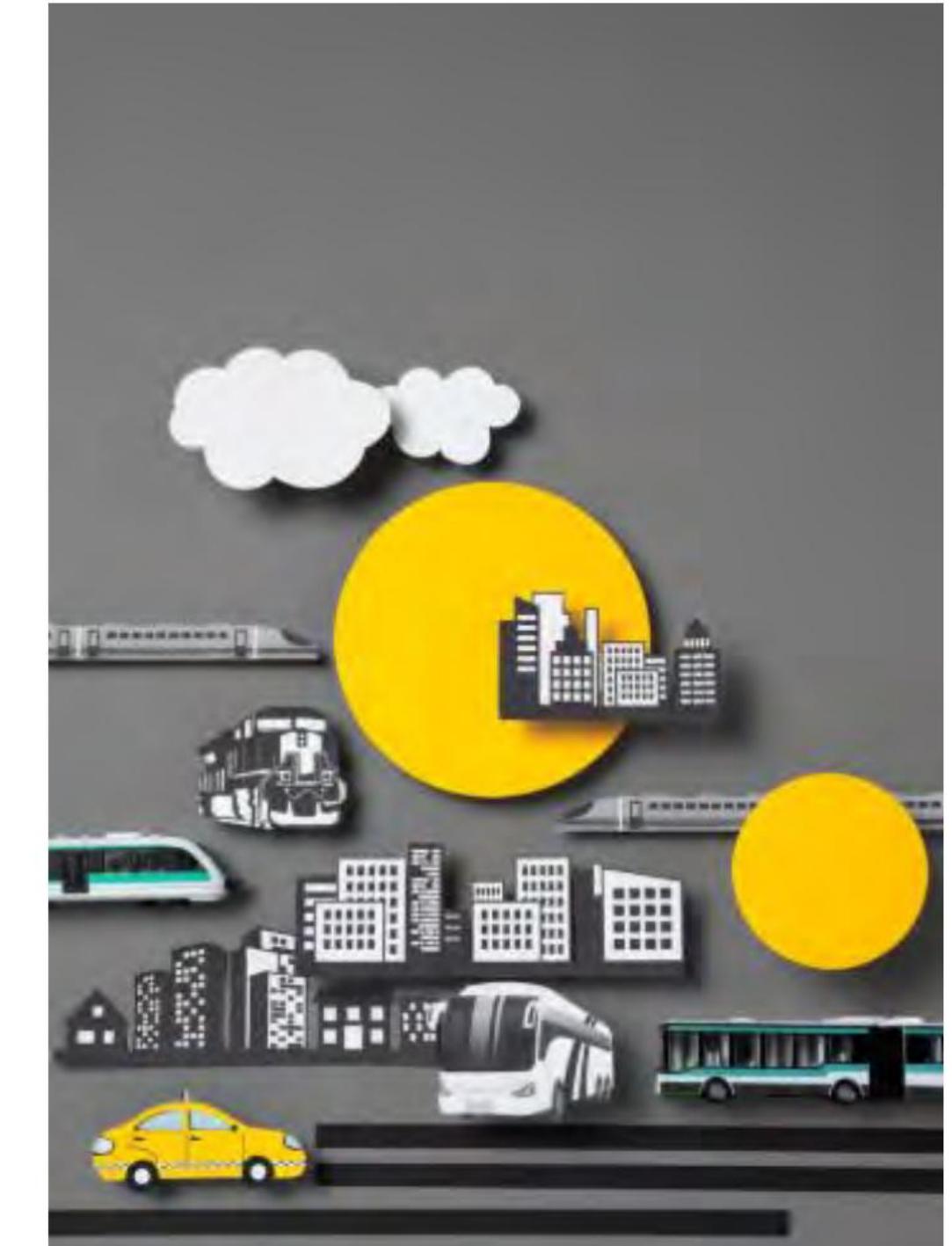
Management Differences in Agriculture

- It's not the amount of fertilizer used, but the management style that makes the difference.
- Local field data collection is recommended .
- Lack of composting and stubble burning increase emissions.



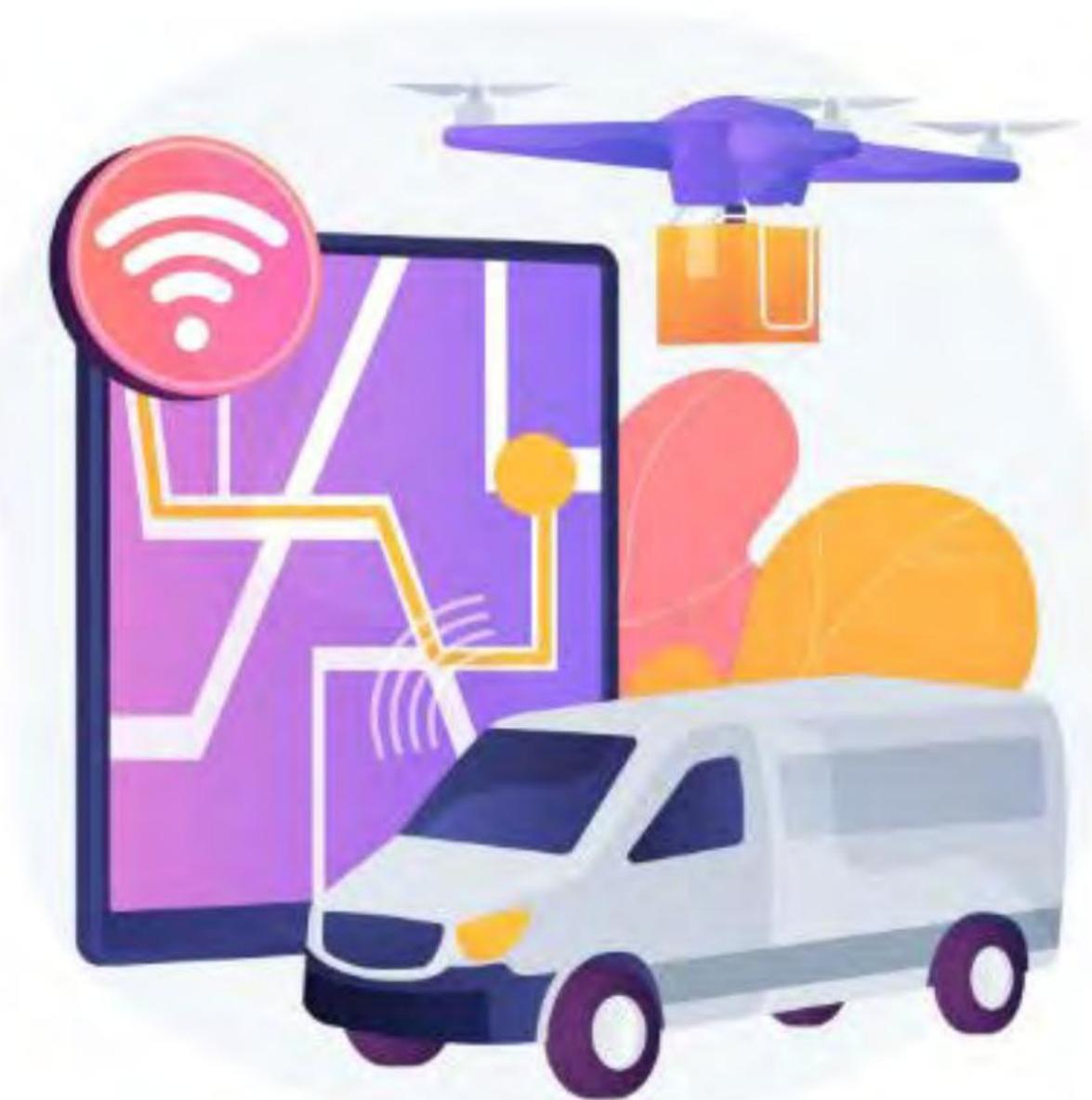
Emissions from Transportation

- Diesel-engined vehicles are prevalent in the district.
- Public transportation is inadequate, and private vehicle use is high.
- The municipality's vehicle fleet is old and inefficient.



- Question: 'Which mode of transportation did you use to get to the municipality?' • Public transport / private / service vehicle

Interaction in Transportation



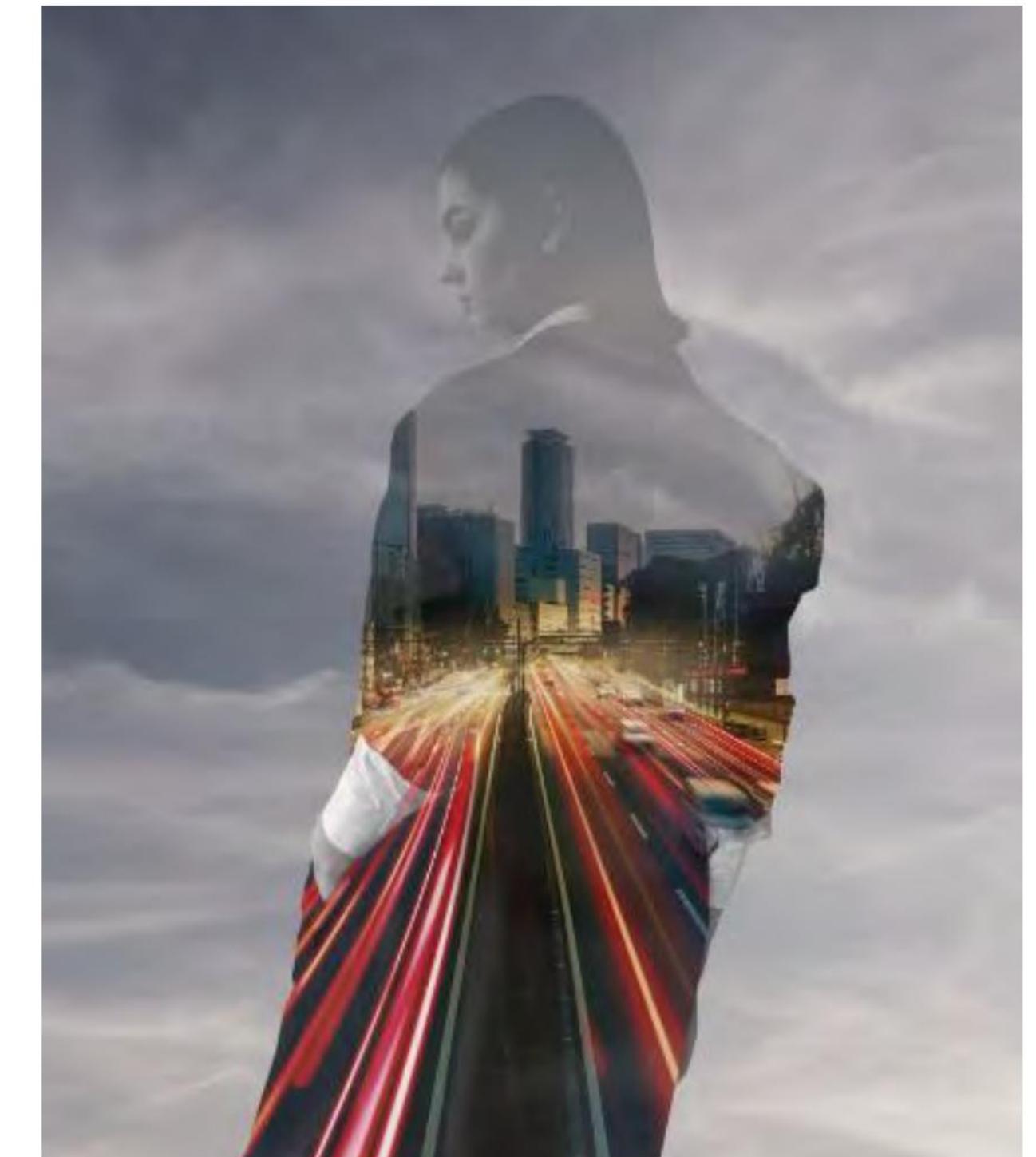


Emissions and Recommendations in Transportation

- Transportation is not limited to private vehicles only. •

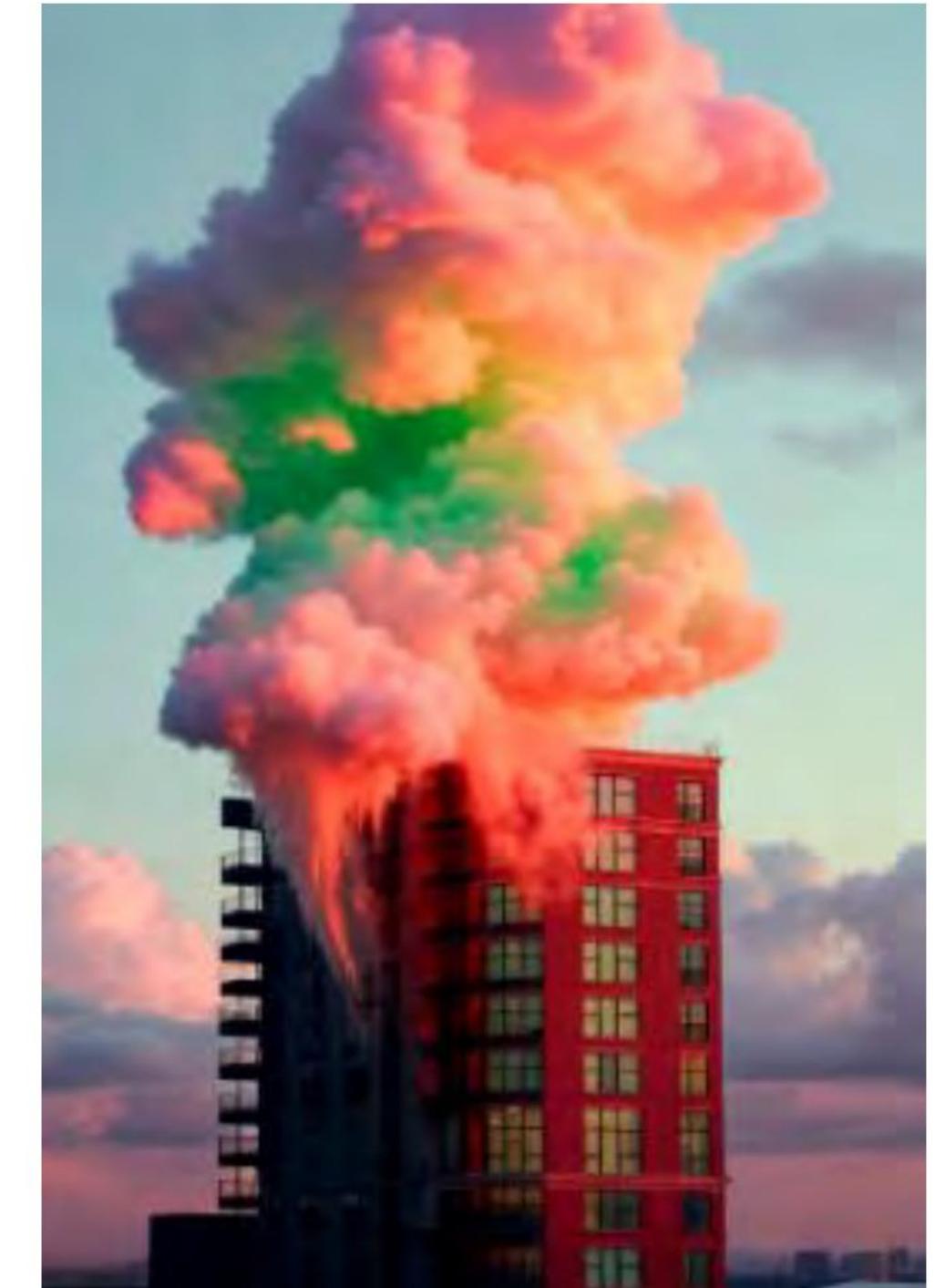
The energy source of electric vehicles should be questioned.

- Renewal of the municipal vehicle fleet is recommended.



Emissions from Buildings

- Heating (coal, LPG, low-efficiency electric systems) • CO₂ emissions increase in winter; risks to indoor air quality arise
- Old-style boilers, single-glazed windows, inadequate insulation are common



Energy Performance Certificate (EPC) and Monitoring in Buildings

- Very few buildings have Energy Performance

Certificates (EPCs) • The energy efficiency monitoring

system is weak • Data on building type, area, and

consumption should be added to the municipal inventory

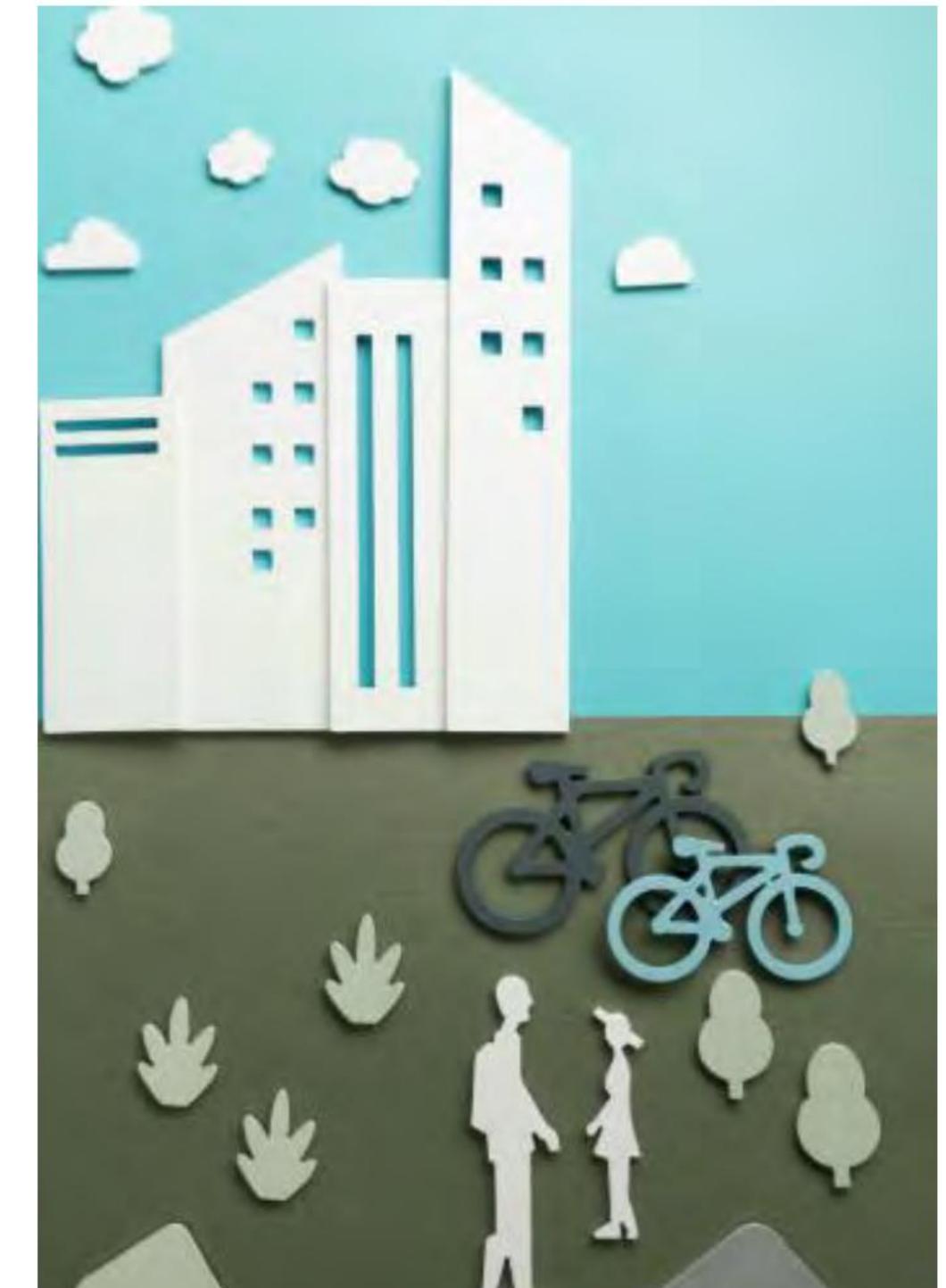
bep^{TR} **ENERJİ KİMLİK BELGESİ**

| Binanın | Belgenin | Binanın Görüntüsü | | |
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| SİSTEMLER | YILLIK ENERJİ TÜKETİMLERİ | | YENİLENEBİLİR ENERJİ/KOJEN. ENERJİ | SINIFI |
| Toplam | Birinci (kWh/yıl) | Birim Alan Başına (kWh/m ² /yıl) | Birinci (kWh/yıl) | |
| Işitma | | | | |
| Sihhi Sıcak Su | | | | |
| Soğutma | | | | |
| Havalandırma | | | | |
| Aydınlatma | | | | |
| Kojarasyon | | | | |
| Fotovoltaik | | | | |
| Belgenin | Belge Düzenleyenin | Kare Kod | | |
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| Veriliş Tarihi: | Firması: | | | |
| Son Geçerlilik Tarihi: | | | | |
| İptal Edilen EKB No: | Sertifika No: | | | |
| | İmza: | | | |

Sayfa 1/3

- It should be remembered that electric heaters also have emissions depending on their energy source.
- Social distancing emissions are as important as comfort.

Warnings Regarding Building Emissions



- Household waste is transported via EKAB (Electronic Waste Management System)
- Temporary storage areas within the district are insufficient
- Recycling infrastructure is lacking; methane (CH_4) release occurs

Waste Management and Indirect Emissions





- Wastewater management: electrically powered pumping stations indirectly produce hydroelectric power (HV)
- Emissions increase when water consumption increases in summer
- Sewer systems are old, water loss and system failure are common

Waste Energy and Emissions



Misconceptions and Misinterpretations of Waste

- The misconception that 'waste does not generate energy' will be corrected.
- Recycling is not just about plastic/paper, but also about energy efficiency.



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- In Uzunköprü, GH emissions are from agriculture, transportation, buildings, and waste. • A regular monitoring system has not yet been established. • This deficiency may make data and investment decisions difficult in the future.





SECAP Plan and Monitoring

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- Monitoring indicators should be defined for each topic in the preparation of SECAP.
- Planning: important not only for mitigation but also for data production, prioritization and EU funding.





- In which areas is there the most data deficiency in the district?
- Suggestions and observations from participants
- SECAP and other best practice examples

Participant Discussion and Evaluation



SÜRDÜRÜLEBİLİR ENERJİ VE İKLİM EYLEM PLANI

Uzunköprü Belediyesi

2025



- The reports are only 'academic'
To prevent this from happening, municipalities
need to develop projects.
- When local responsibility is assumed, the region
receives funding, reputation, and technical support.

Local Responsibility and Outcome





Thanks!

Question and Answer

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Module 3: Reporting and Review

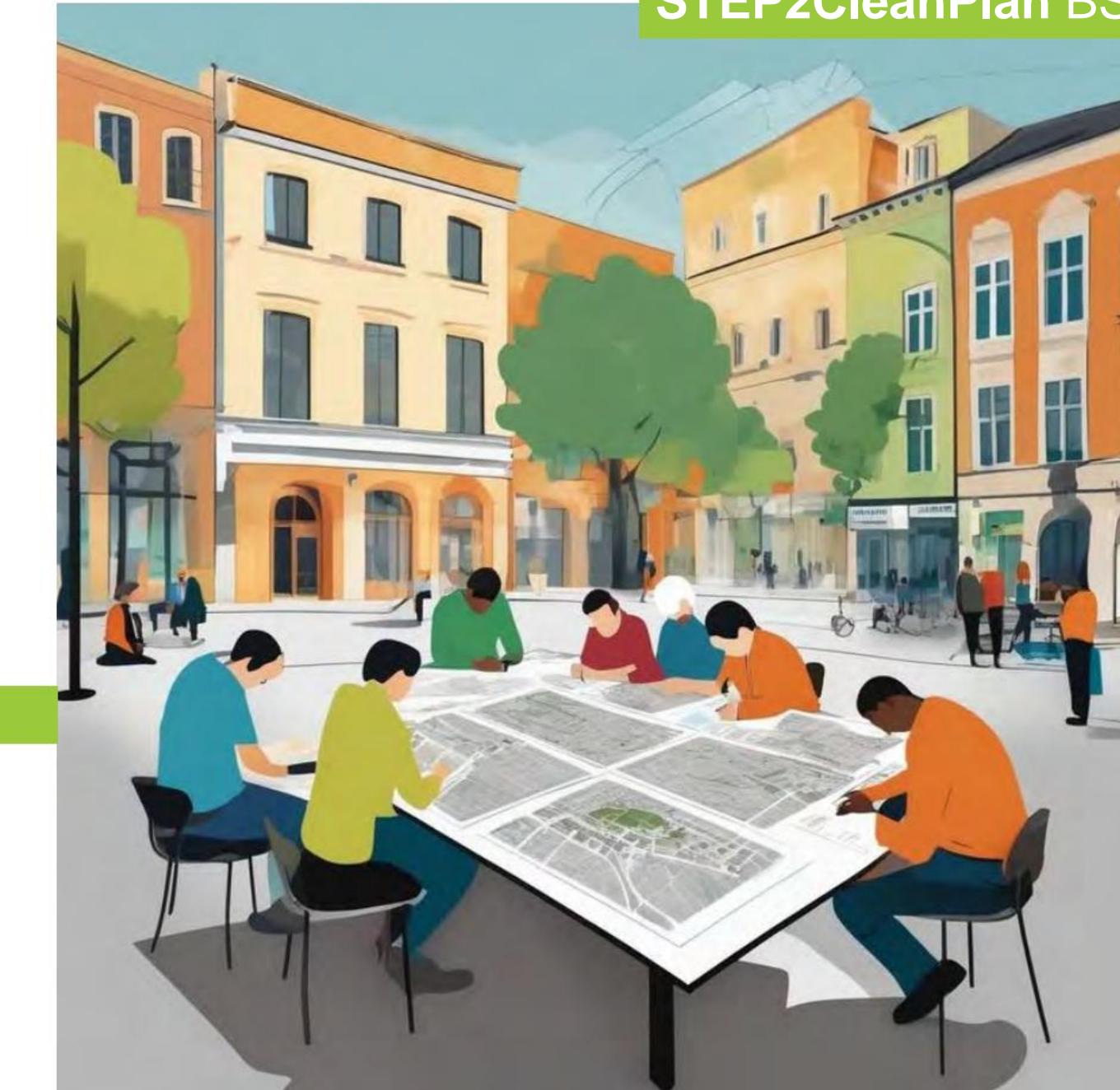
Submodule 301: Review, local adoption and harmonization of methodologies for calculating emissions with EU greenhouse gas policies.

301 D: GHG Calculation Methods

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS. UNION

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Agenda

- GHG (Greenhouse Gas) Calculation Methods and Standards

Aim

- Understanding the methods used in GHG calculations
- Being able to select the most appropriate approach for local governments

Familiarity with international systems such as IPCC, GHG Protocol, and ISO to become familiar

What is GHG Calculation?

- The process of determining greenhouse gas emissions by quantity and source
- Unit: tons of CO₂ equivalent (CO₂eq)
- This calculation forms the basis of all climate planning



Introduction to Computational Methods

- 3 basic methods:
 1. Emission Factor Based Approach
 2. Direct Measurement
 - Method 3. Modeling and Simulation Method
- Each offers different data levels, costs, and accuracy.



1. Emission Factor Based Approach

- The most commonly used method • Emission = Activity Data \times Emission Factor (EF)
- Example: Electricity consumption (kWh) \times EF (kg CO₂eq/kWh) • Data is easily accessible, but relies on general assumptions.



EF Approach – Warnings

- The variability of EF values must be understood.
- Assessments should be based on resources, not per capita.
- They vary by country, year, and sector.



2. Direct Measurement Method

- Measurements are taken from chimneys, exhaust pipes, and waste disposal sites.
- Provides accurate and real-time data.
- Requires equipment and expertise; it is expensive.



Direct Measurement – Examples

- Large industrial chimney – CH₄ measurement sensor
- Solid waste facility – methane emission analyzer
- Exhaust gas analyzer for transportation



Direct Measurement – Warnings

- Not every municipality can implement it; multi-point measurement is difficult.
- Short-term data should not be generalized to the whole year.
- Calibration is affected by environmental conditions.



3. Modeling and Simulation Method

- Estimates are not possible if there is insufficient data.

systems based on

- Software, satellite data, and AI-powered algorithms can be used.
- Provides suitable scenario generation.



Modeling – Application Examples

- Building insulation level → estimated energy consumption → SG •

Number of vehicles, road length → transportation

SG • Type of agricultural land → fertilizer → CH₄/N₂O estimate



Modeling – Warnings

- Incorrect input → incorrect result
- Not every model fits all local conditions
- Must be calibrated with 'real' data

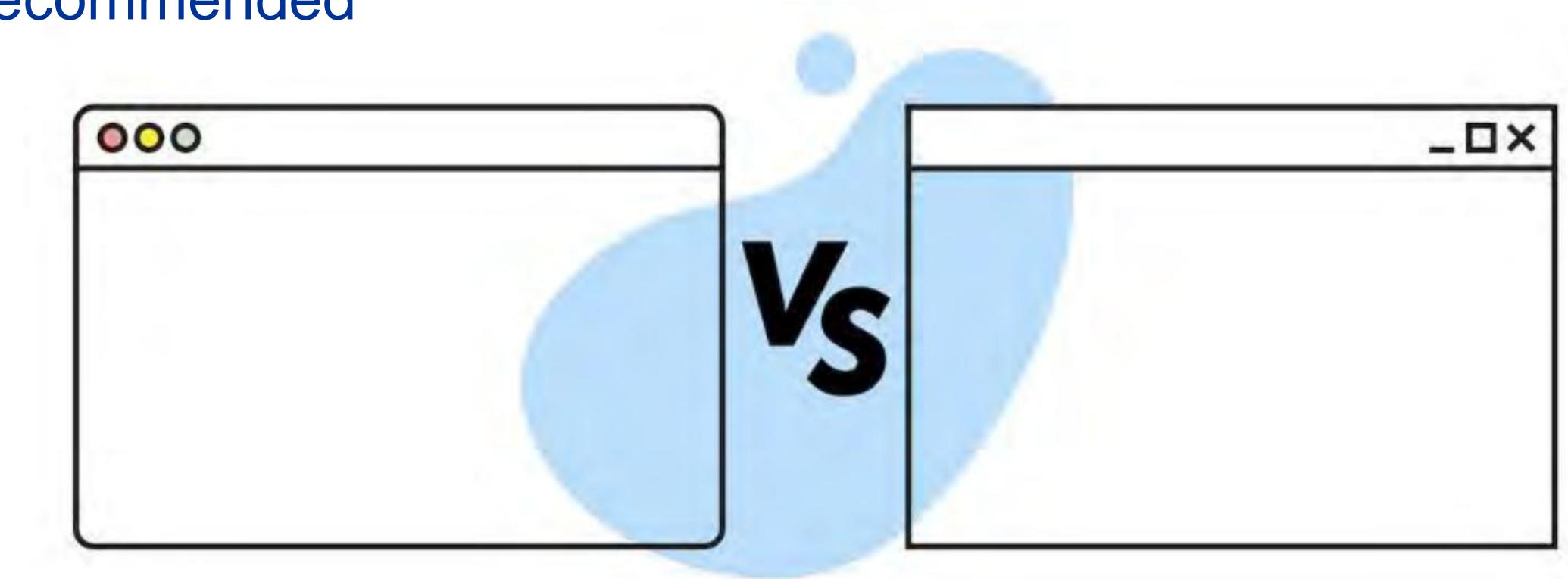


Method Comparison

- EF: practical, common, low accuracy
- Direct: precise but expensive •

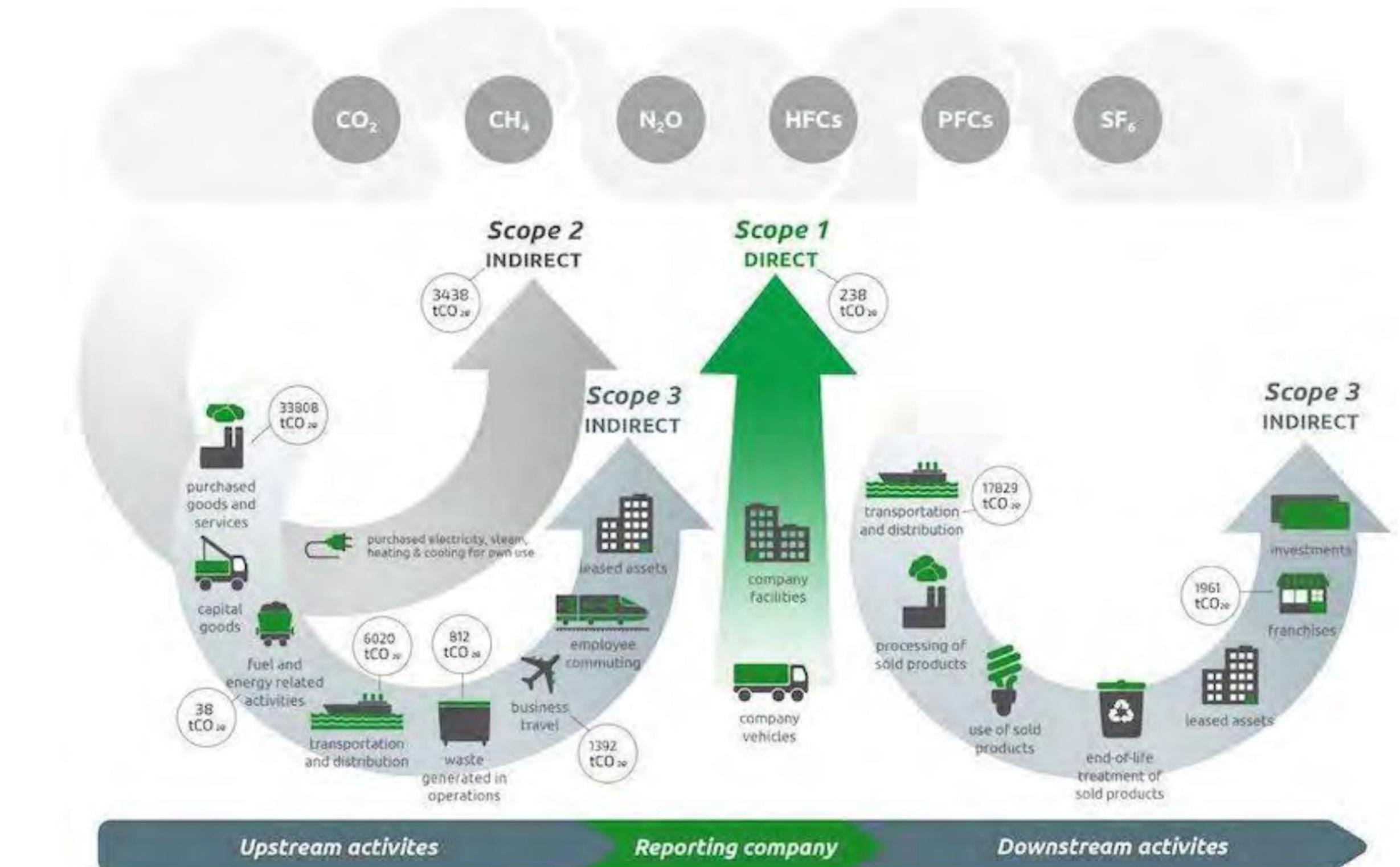
Modeling: flexible but assumption-based •

Adaptive approach = hybrid approach recommended



GHG Protocol Standard

- The most common system at the corporate level
- 3 scopes: direct – indirect – value chain
- Particularly useful for municipalities in reporting on mass consumption.



IPCC Guidelines

- 2006, 2019 and 2023 Guidelines – basis for country reporting
- Category-based classification •

Includes emission factors, formulas, and sample calculations





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- Standard for greenhouse gas calculation and verification for organizations
- ISO 14064-1: Identification, calculation
- ISO 14064-3: Verification processes

ISO 14064 Standard





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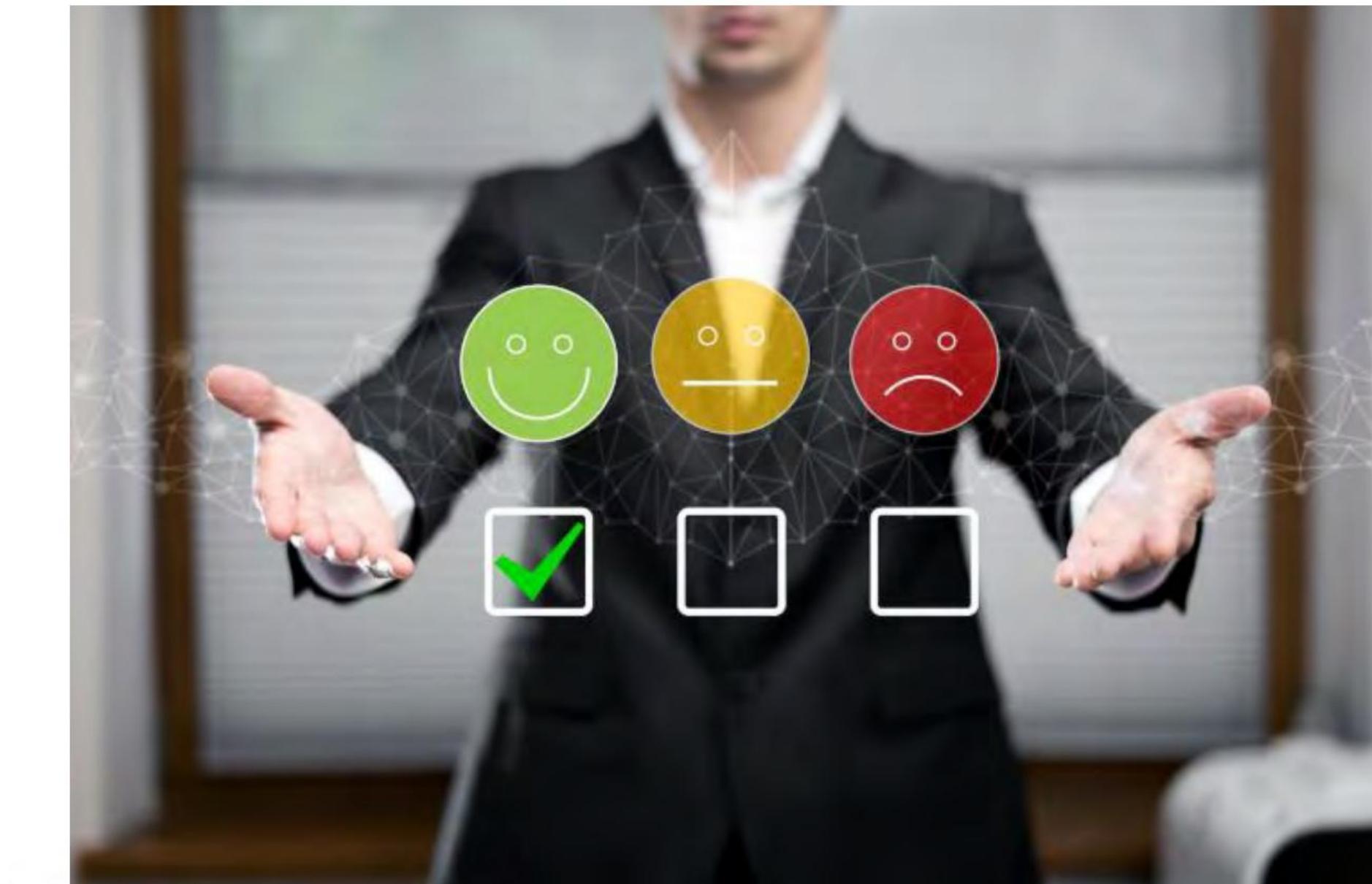
SECAP Compliant Calculation

- CoM (Covenant of Mayors) system: energy and SG are monitored together.
- Proposed approach for SECAP: balance of EF + local measurement + modeling.



Participant Evaluation

- Which method do you find more feasible? • Which method did you find too complicated?



- GHG calculation methods:
 - – Emission factor
 - – Direct measurement
 - – Modeling
- International standards (IPCC, GHG Protocol, ISO)
- Combination required for local adaptation

Conclusion and Summary



Thanks!

Question and Answer

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Module 3: Reporting and Review

Submodule 301: Review, local adoption and harmonization of methodologies for calculating with EU policies. greenhouse gas emissions

301 A: Greenhouse Gases and Türkiye's Emissions Profile

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN
AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS.
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Agenda

- The basic concept of Greenhouse Gases (SG) • CO₂ Equivalent and GWP • Türkiye's emission profile (2023)
- Climate commitments and the 2053 target
- Resources in Edirne and Uzunköprü • Comparison with the EU •
- Conclusion & Discussion

- Natural or human-caused, it traps heat in the atmosphere •

Greenhouse effect → Earth at a habitable

temperature • Significant increase due to human influence after the

Industrial Revolution • Global warming (GW) and climate change (CC) begin

What are Greenhouse Gases (SG)?



Major Greenhouse Gases

- Carbon dioxide (CO₂): Fossil fuels, deforestation
- Methane (CH₄): Agriculture, livestock, landfills
- Nitrous oxide (N₂O): Fertilizers, combustion

Fluorinated gases: Refrigerant/industrial gases



What is the greenhouse effect?

- Solar panels trap heat reflected from the ground . • The planet is 33°C warmer due to its natural solar panels. •

Introductory question using the glass greenhouse example: 'Why is it hot in a greenhouse?'



Important Warnings Regarding SG

- Not all SGs are 'dirty gases' or toxic. • The difference between natural and human-caused emissions should be emphasized. • Some SGs remain in the atmosphere for a short time, while others last for centuries.





Greenhouse Gas Equivalent (CO₂eq) and GWP

- Not all warming factors have the same effect.
- CO₂eq allows warming factors to be expressed on a common scale.
- GWP (Global Warming Potential) is used.
- Formula: CO₂eq = amount x GWP



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GWP and CO₂eq Calculation

- 100-year GWP examples:
 - Methane (CH₄): 27.2
 - Nitrogen monoxide (NO): 273
 - HFC-134a: 1,300+
- All national reports are prepared using this system.



Current Emission Profile of Türkiye (2023)

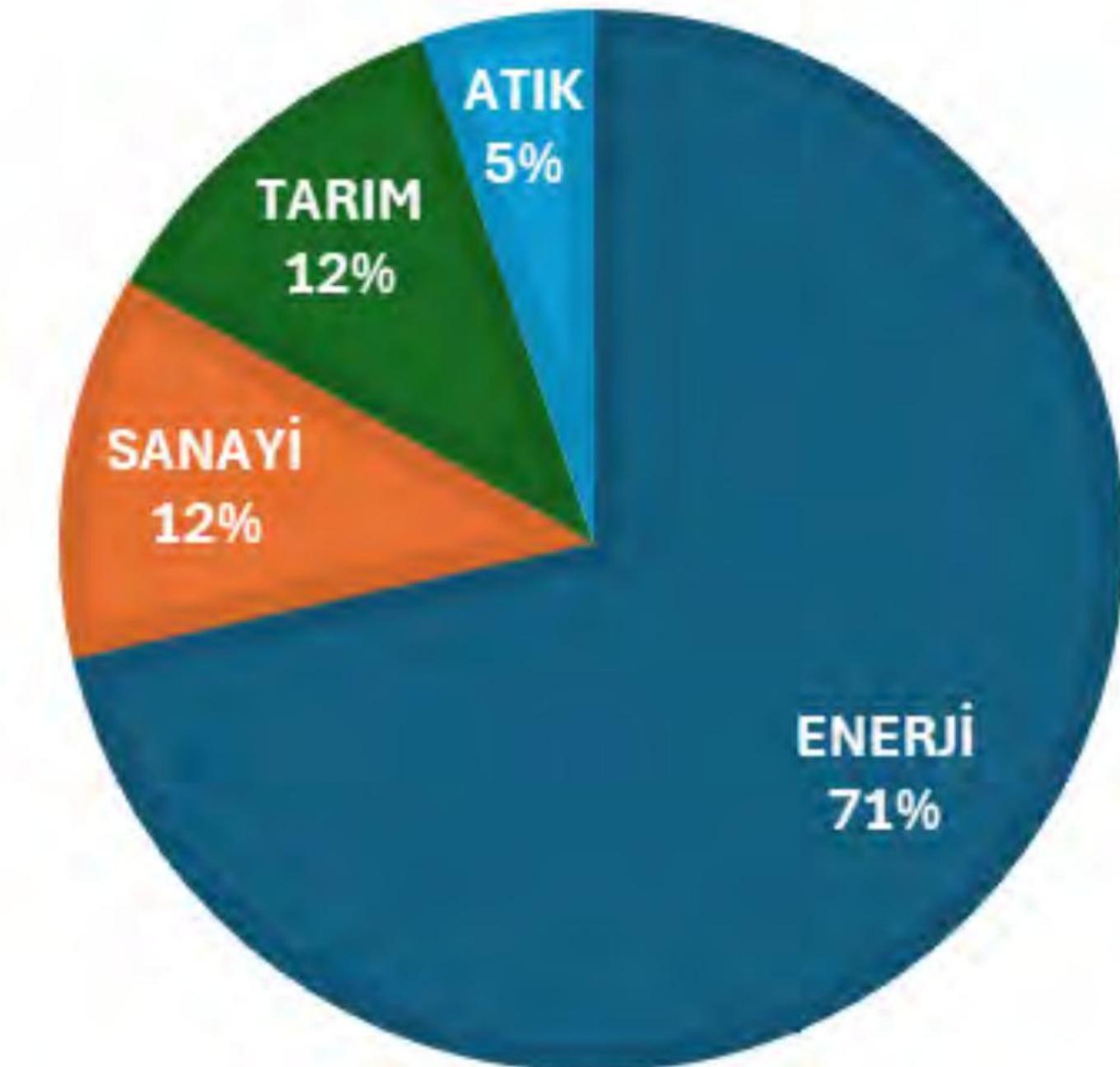
- Total emissions: 598.9 million tons CO₂eq • Per capita: 7 tons CO₂eq •

Turkey ranks in the top 20 globally with a 1% share



Türkiye – Sectoral Emission Distribution

- Energy: 71.5% (electricity, transportation, buildings)
- Industry: 11.7% (cement, chemicals, metals)
- Agriculture: 11.6% (livestock, fertilizers)
- Waste: 5.2% (storage, treatment)



- 2021: Paris Agreement ratified •
- 2025: Turkey's Climate Law
- 2030: 41% reduction target (based on reference) • 2053: Net Zero emissions target • Commitments cover all municipalities

Türkiye's Climate Commitments and the New Climate Law



- 2021 Green Deal • 2023

National Contribution Statement (NDC)
revised

- 2025 Climate Act

Climate Commitments – Policy and Legislative Process



Impact on Local Governments

- Energy, transportation, buildings, waste:
under the control of local governments.
- National goals cannot be achieved without
establishing a monitoring and action plan.



Emission Sources in Edirne and Uzunköprü

- Edirne: Rural area, intensive agriculture and livestock farming •

Uzunköprü: Flat plain, most of the population earns a living from agriculture and livestock
farming • Outdated urban transportation and waste management systems





Uzunköprü: Basic Social Security Resources

- Agriculture: Methane and N₂O, open manure storage, stubble burning •
- Transportation: High proportion of diesel vehicles, lack of public transportation
- Public buildings: Heating with coal/LPG, outdated lighting
- Waste: Inadequate storage, waste collected using outdated methods, methane emissions



Emission Monitoring and SECAP in Uzunköprü

- The emissions monitoring system has not yet been established.
- Monitoring and prioritization are planned with SECAP.
- Financing, capacity building, and EU funds are also on the agenda.



Comparative Situation with the EU

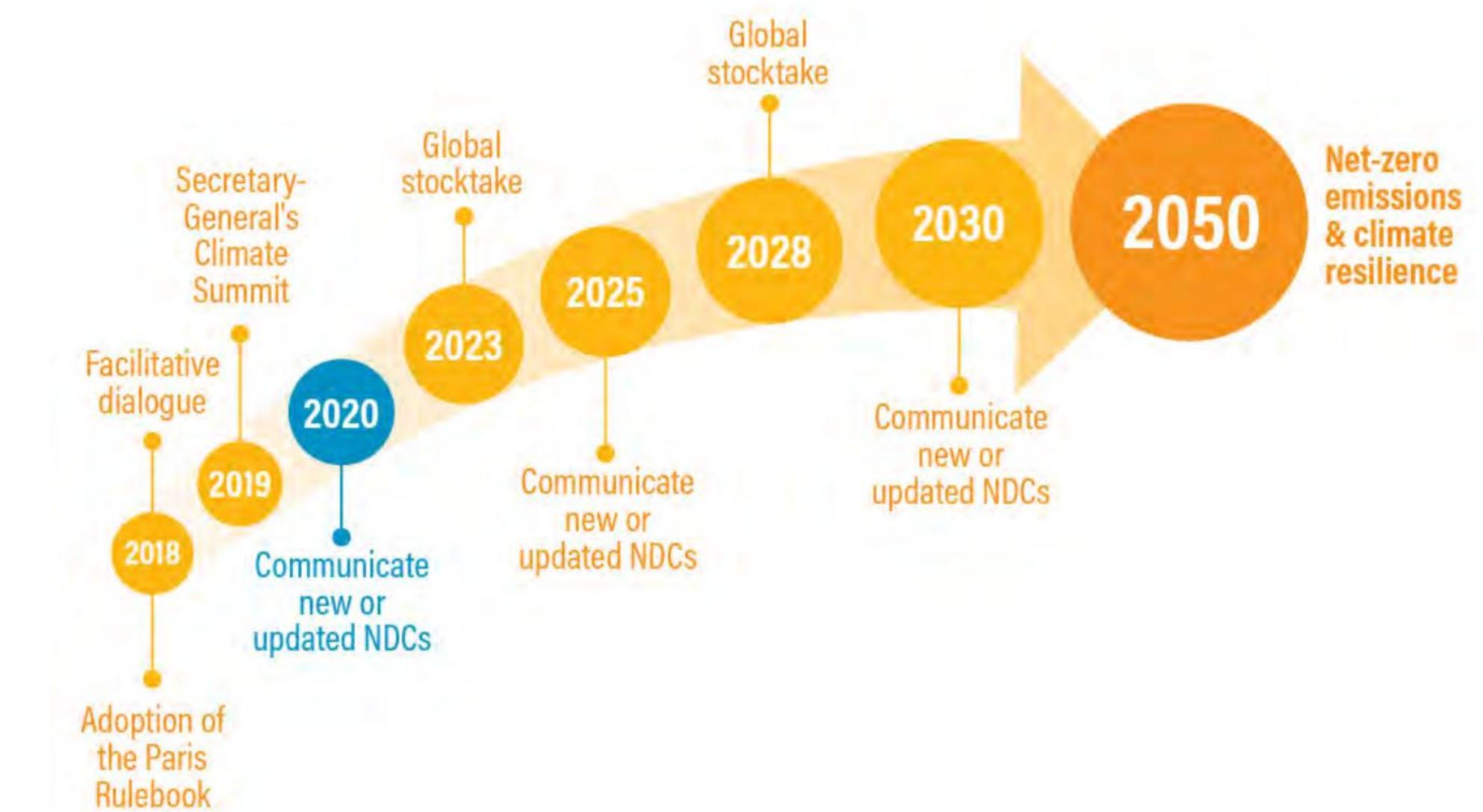
- EU (1990–2021): Reduced emissions by 32% •

Türkiye: Increased

emissions by 220% • Difference: Legal obligation in

the EU, voluntary in Türkiye

- Carbon price, ETS, Energy Identity Certificate (EPC) requirement



EU Local Government Policies

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- Municipalities are required to maintain regular emission inventories. • ETS and carbon pricing are implemented in all countries. • There are restrictions on the sale/rental of buildings without an Energy Performance Certificate (EPC).

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- **Tangible Benefits Provided by SECAP**
- **Point advantage:** Having a strategic plan in funding applications earns extra points.
- **Ease of finding partners:** Increased opportunities for cooperation with other EU cities.
- **Ready-made data set:** Since the emissions inventory, action steps, and budget estimates are already prepared, the project writing time is shortened.
- **Reliability:** Funders perceive investing in planned municipalities as less risky.

SECAP and Beyond



SÜRDÜRÜLEBİLİR ENERJİ VE İKLİM EYLEM PLANI

Uzunköprü Belediyesi

2025



EU Funding Application Checklist After SECAP – Uzunköprü Municipality

1. Official Approval and Publication of SECAP

Confirm that it has been approved by the city council and publicly released.

2. Identifying Funding Sources: EU

Funding & Tenders Portal / Current calls for proposals under programs such as Horizon Europe and IPA III.

3. Aligning Project Priorities with SECAP: Determine

project topics based on the energy efficiency, renewable energy, transportation, and climate adaptation measures included in SECAP.

4. Finding Project Partners

Connect with EU municipalities, universities, NGOs, and the private sector.

5. Technical and Financial Capacity Analysis

Review human resources, technical equipment, and co-financing opportunities.

6. Application File Preparation

1. Project Summary Document / 2. Budget and Financing Plan / 3. SECAP Compliance Justification **7.**

Internal Approval

Process: Approval by the Mayor, relevant departments, and the finance unit **8.**

Application Submission and Follow-up

1. Completing the online application form / 2. Answering questions from the funding institution after submission.



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Thanks!

Question and Answer

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301 C: Local Data Collection Processes and Formats

Instructor: Yasemin Somuncu

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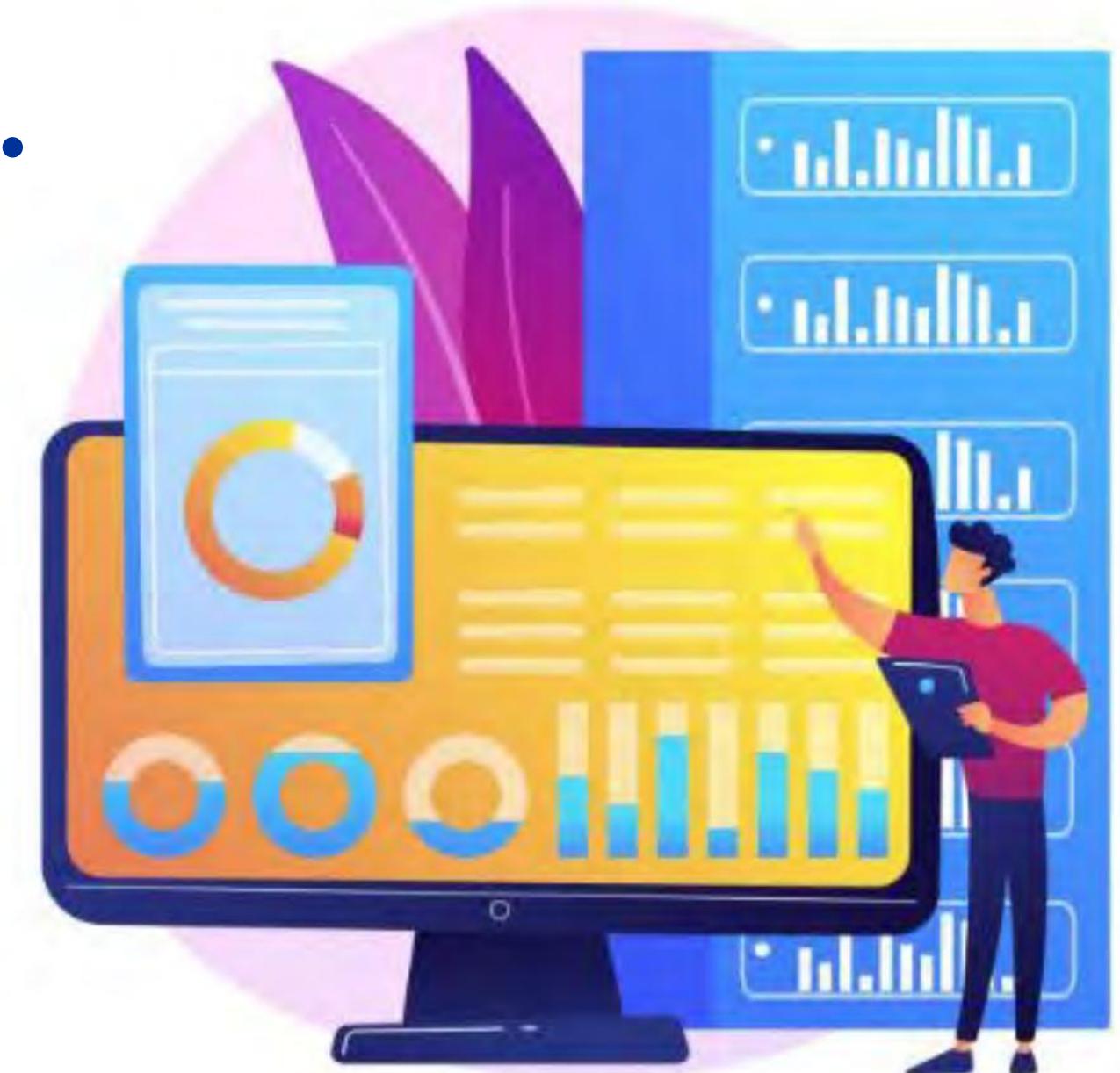


Agenda

- The importance of data
- Party Coordination • SECAP
- Compliance • Outcome
- & Discussion



- SG monitoring requires not just measurement, but organized data. •
- Data → Planning → Implementation → Funding
- Data structure is critical for compliance with national/international plans.



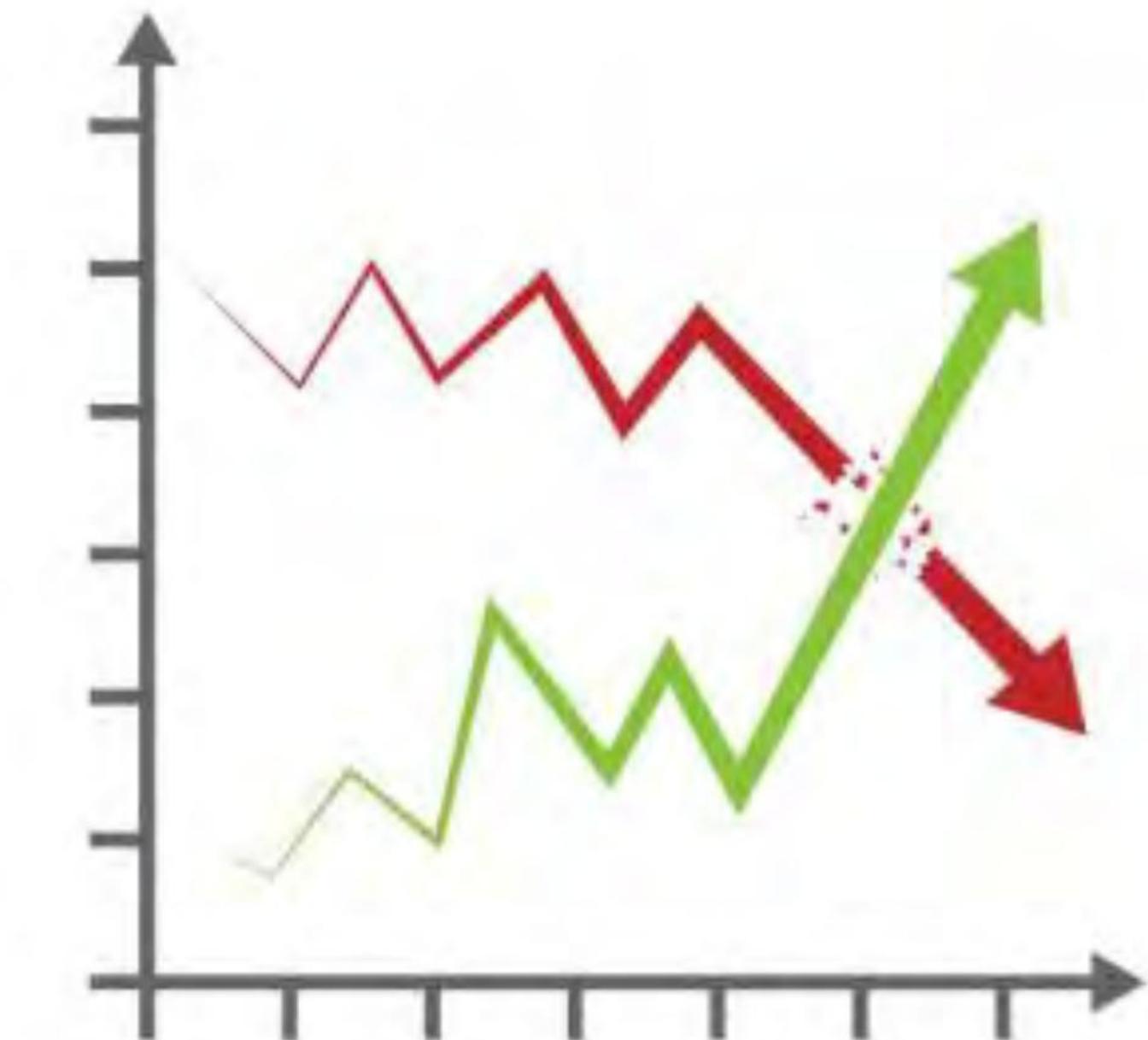
What local data is needed?

- Energy: electricity, natural gas, fuel consumption
- Agriculture: livestock, fertilizer, land use
- Waste: quantity, disposal method, recycling
- Transportation: number of vehicles, type, frequency of use



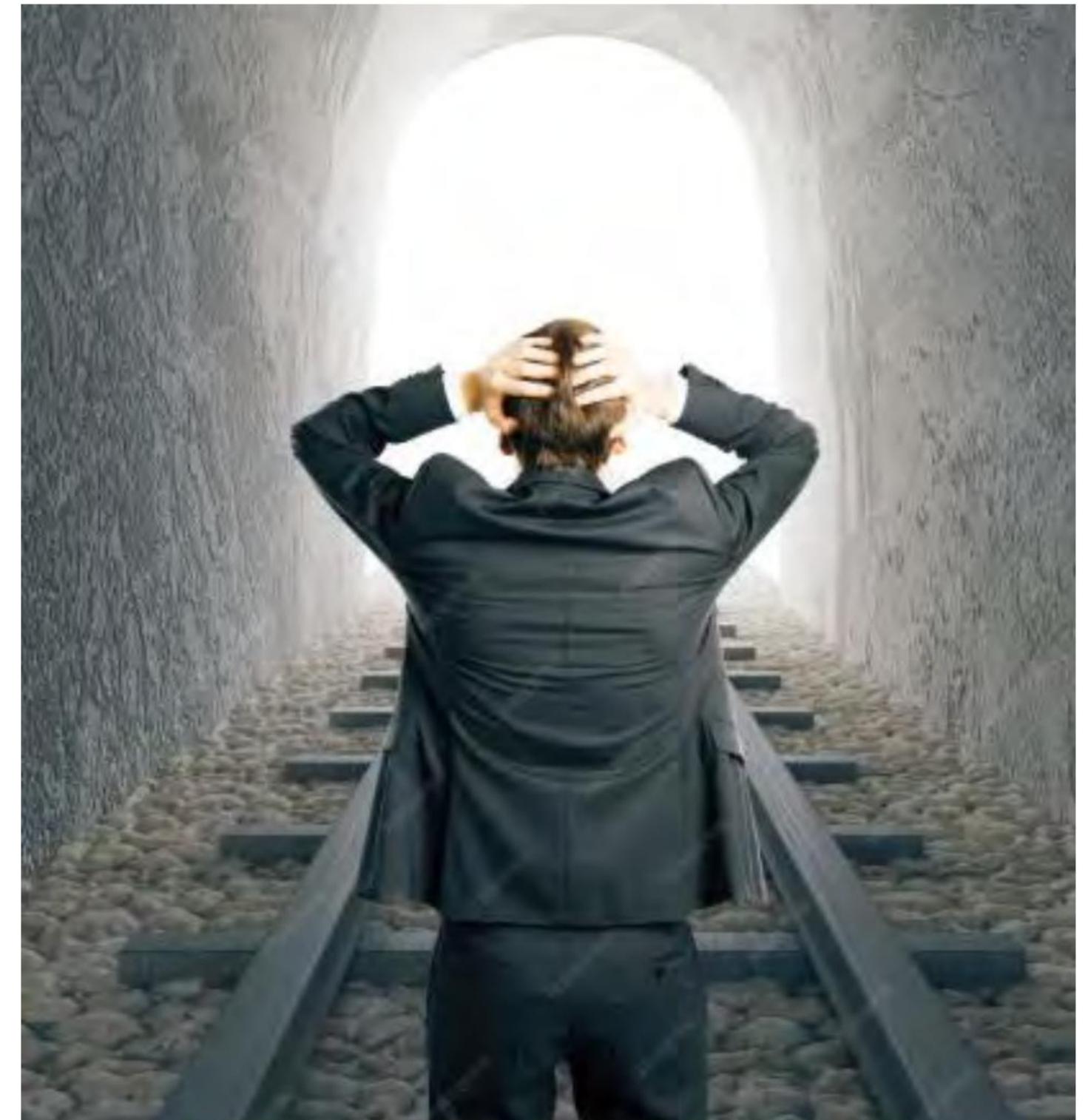
- Direct: fuel combustion, fertilizer use
- Indirect: electricity consumption, wastewater pumping systems
- Each data point must be associated with SG (Source of Gas).

Data – Direct and Indirect Social Security



Challenges Based on Data Types

- Unmeasurable ſ based on estimation (e.g., in buildings)
heat loss)
- Confidential/limited data sharing ſ data
obtained from energy companies
- Format difference ſ compatibility issue



Data Sources According to Organizations

- Municipality (public works, environment): buildings, infrastructure, public vehicles
- Energy companies: electricity, gas consumption
- Agriculture directorate: animal, manure, land data
- Waste units: solid waste, disposal, treatment



- All organizations must provide data to a single SG monitoring system .
- Sharing protocols, time Schedules and verification cycles should be established.

Inter-institutional coordination



- Regular staff training •
- Technical control and dispute resolution
- process • Written protocol and update period

Requirements for Data Accuracy



Data Formats and Encoding Systems

- IPCC Emission Categories: covers all sectors
- SECAP / CoM formats: local HS compliance and funding requirements
- Turkish Statistical Institute (TÜyK) sectoral codes and ICLEI ClearPath platform



EDİRNE SÜRDÜRÜLEBİLİR ENERJİ VE İKLİM EYLEM PLANI





Coding Systems – Details

- ISO 14064-1 & 14064-3: Verification and HSE management standard



Data Technologies

- Excel-based systems are insufficient. •

Digital monitoring platforms (ClearPath, SECAP module, etc.) • A transparent, accessible, and auditable structure must be established.

- The municipality provides coordination
- Other institutions provide data •

Data managers process and report • A

continuous monitoring and updating team should be established

Roles in Data Flow





Fundability and Transparency

- Transparent data → reliability → access to funds •

SECAP may be rejected if there is no reportable framework •

Compliance with national contributions (NDC) must be ensured



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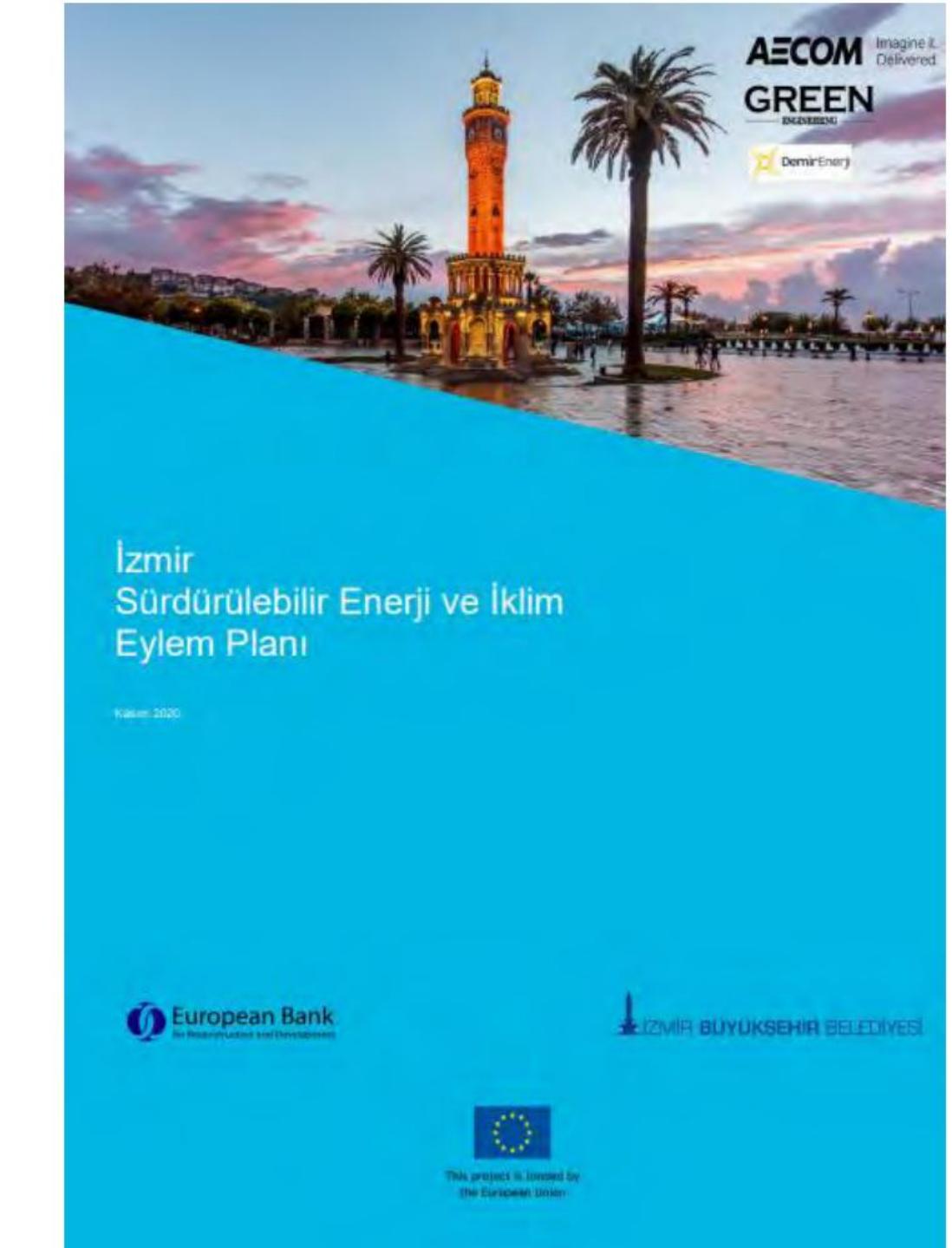


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- Inter-municipal platform: data format sharing
- Joint digital platforms: pilot projects such as Izmir and Bursa
- Dissemination supported by education



Examples of Good Practice



- Question: Which data would be the most challenging? • Groups will propose solutions for: energy – agriculture – waste – transportation • Sharing and evaluation



- Group discussion: ~10–12 minutes •
- Group presentations: ~5–6 minutes •
- Closing and joint evaluation: ~2–3 minutes

Conclusion and Summary

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- SG monitoring = accurate, consistent, cross-institutional data
- Data infrastructure is essential for SECAP
- Monitoring cannot work without training, systems, and coordination





Thanks!

Question and Answer

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Module 3: Reporting and Review

Submodule 301: Review, local adoption and harmonization of methodologies for calculating with EU policies. greenhouse gas emissions

301 E: Technical Reporting with SECAP

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS. UNION

STEP2CleanPlan BSB00004





Agenda

- Climate Action in Local Governments
Reporting

What is SECAP and what is its purpose?

- SECAP: Sustainable Energy and Climate Action Plan •

Comprehensive strategy document for

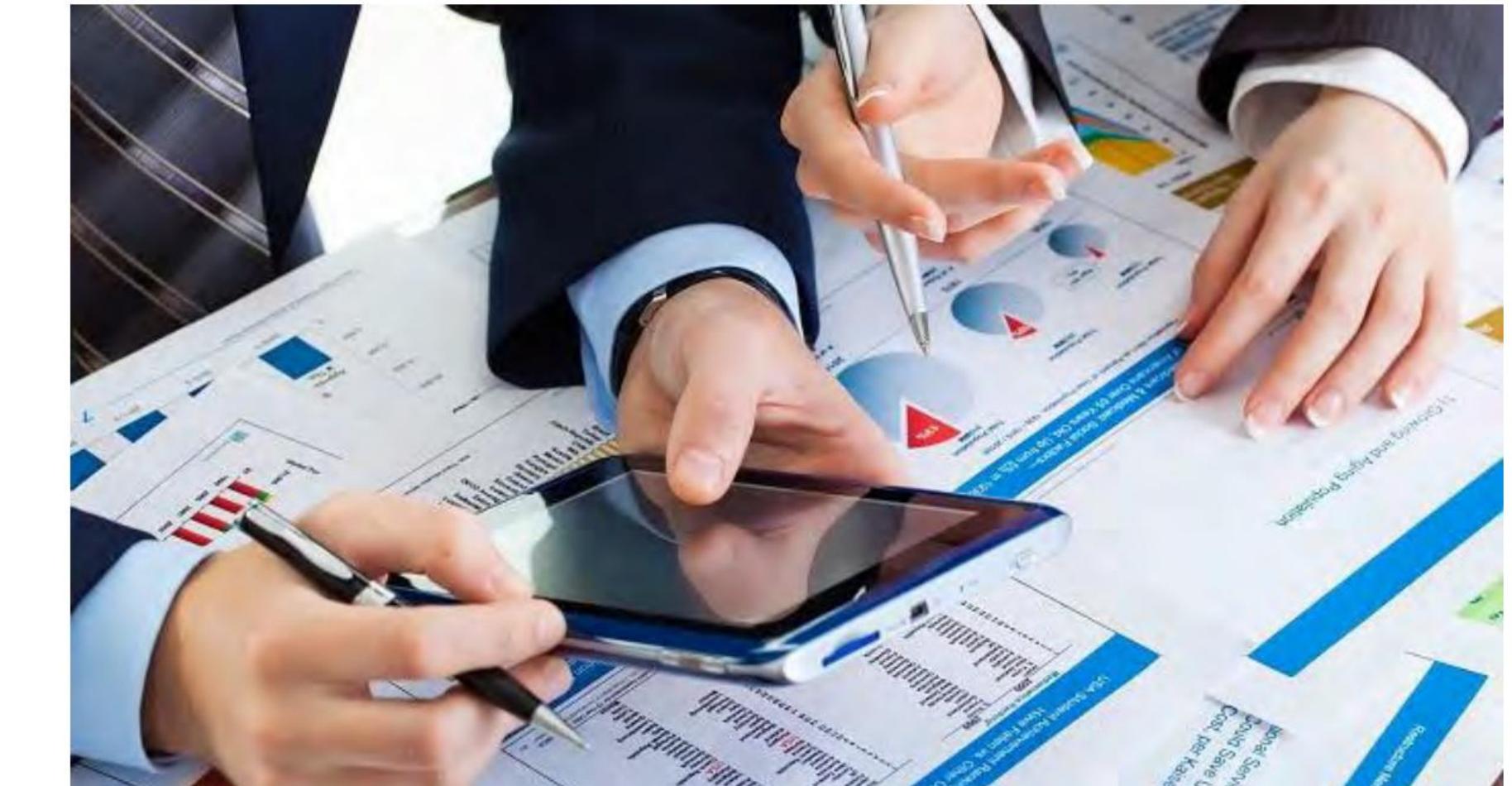
the EU • Emission reduction + climate

adaptation • Dynamic roadmap, not just a document but a management tool



- Inventory: energy, transportation, buildings, waste, industry
- Reference year and sectoral SG calculations
- Goals, actions, monitoring methodology
- Participant: 'Which in your own institution?' component priority'

Technical Reporting and Components



Reporting – Common Mistakes

- Process-oriented reporting, not just tables
- Data, accountability, and indicators for each component
- EU guidelines + national templates should be used

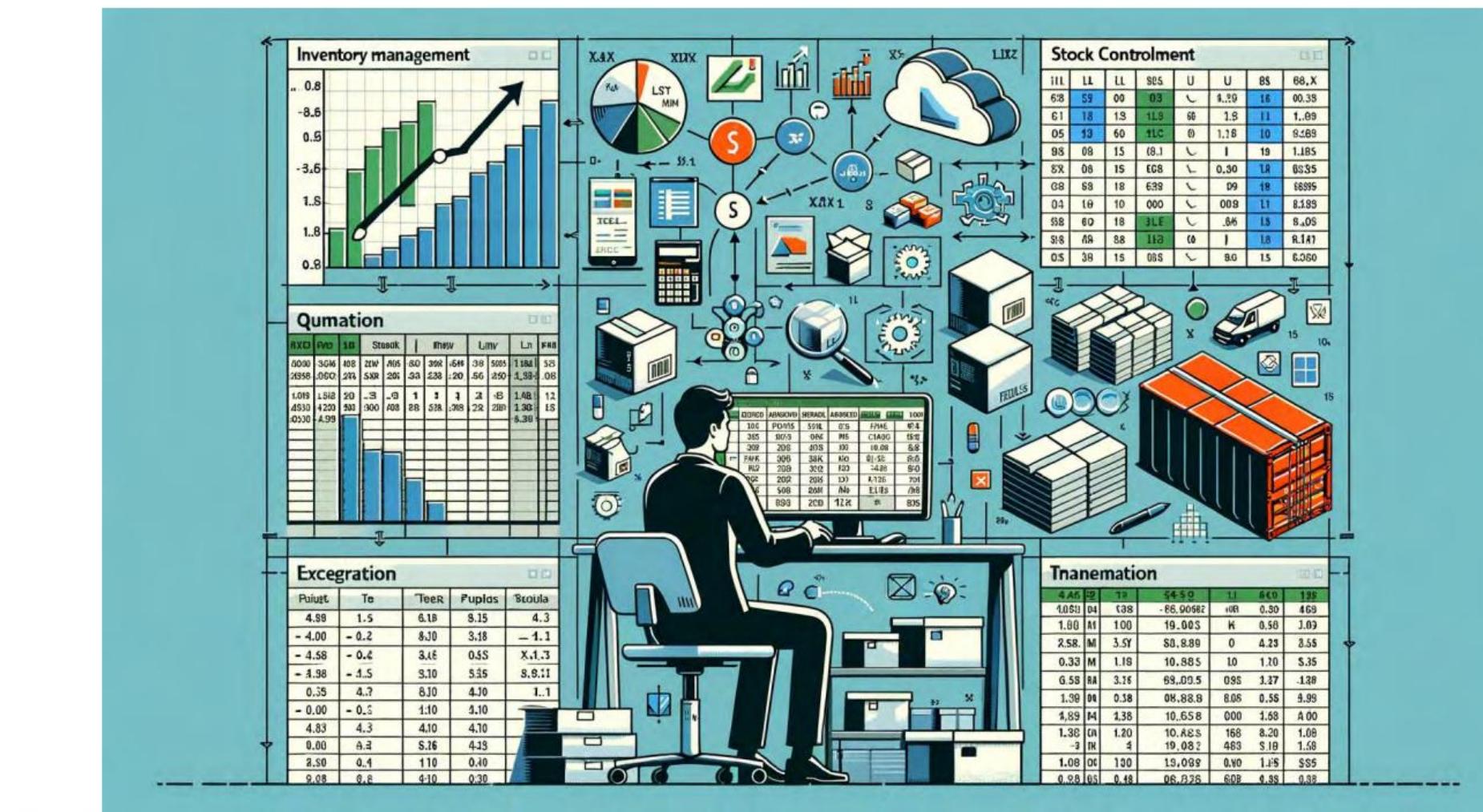


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Data Collection and Inventory Preparation

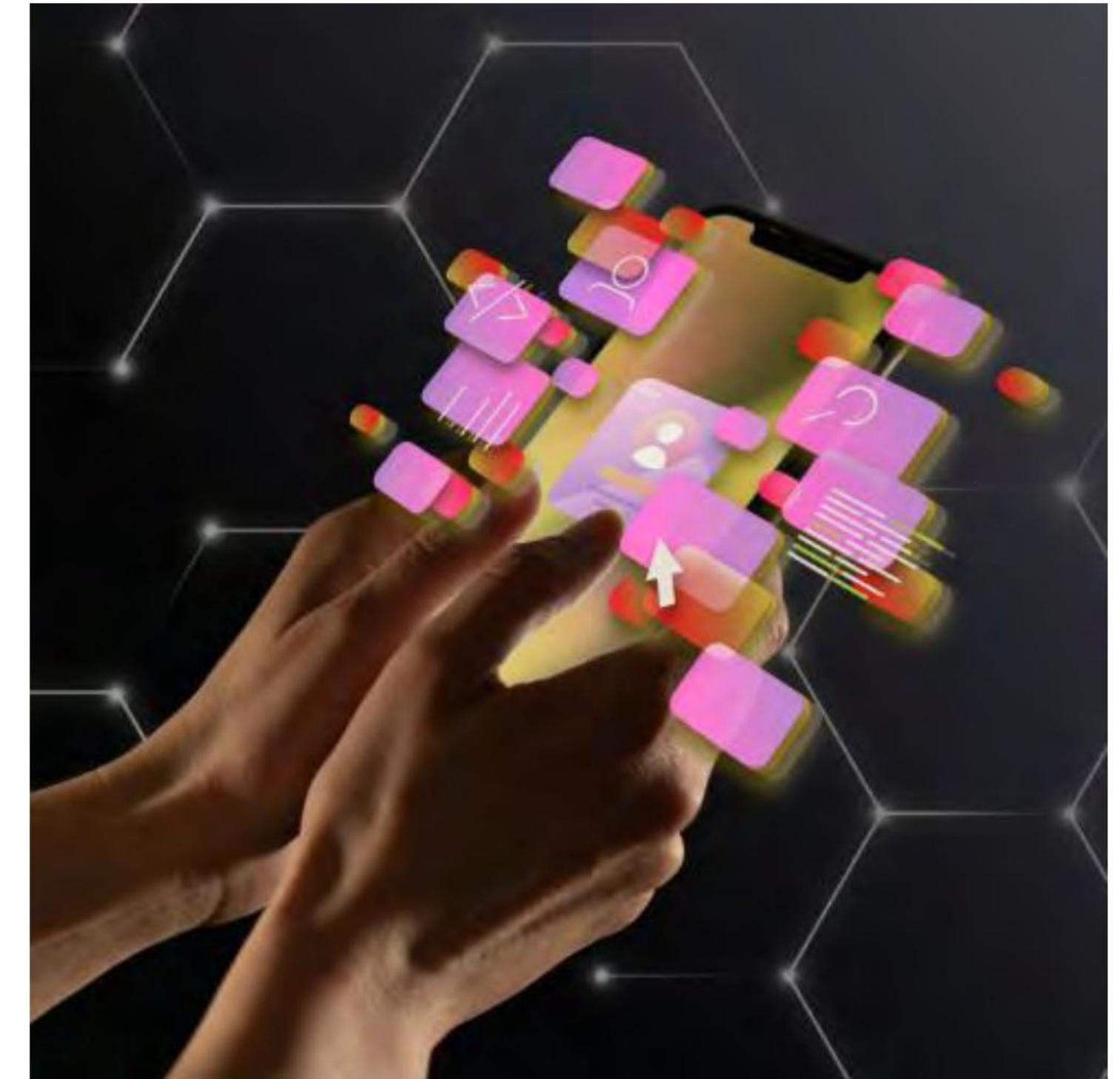
- Energy consumption, transportation, housing, waste, and agricultural data
- Source type and regional differences are as important as quantity

Data unit and source must be clearly defined



- Municipal departments, energy companies, central institutions
- Data: reliable, up-to-date, consistent
- Missing or inconsistent data affects the entire process.

Data Sources and Coordination



- It offers a scientific and transparent profile.
- It forms the basis for future analysis and intervention.
- Success accurately identifies needs and revisions.



Analysis and Goal Setting

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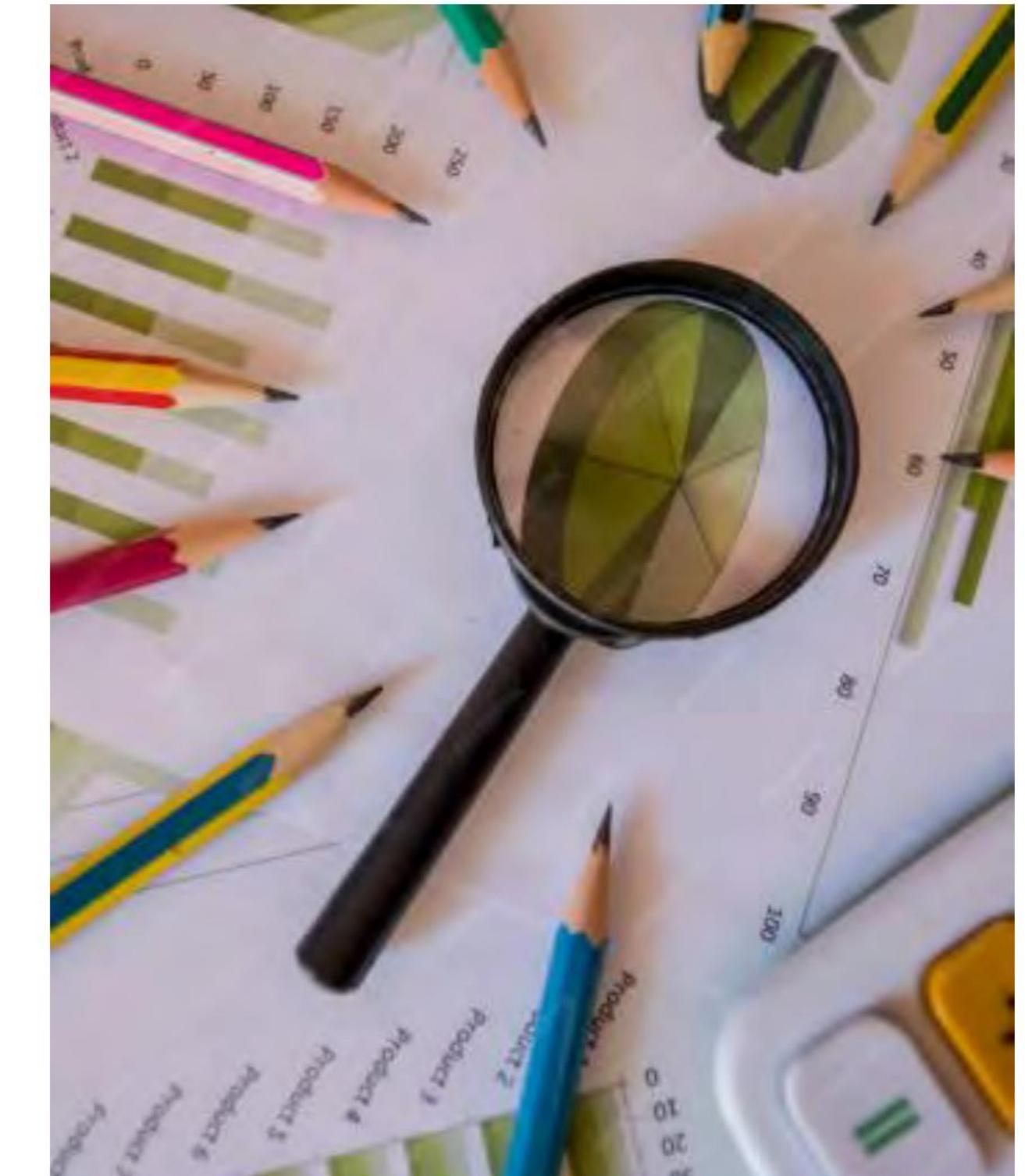
- The highest emission sectors are identified •
- Realistic and measurable targets are formulated •
- Resources, infrastructure, and participation factors are taken into account



- Politics, technology, behavioral scenarios
- Best-case scenario = technical + economic + social applicability
- To the participant: 'Set a realistic goal for your organization.'

For example?

Scenario Analysis

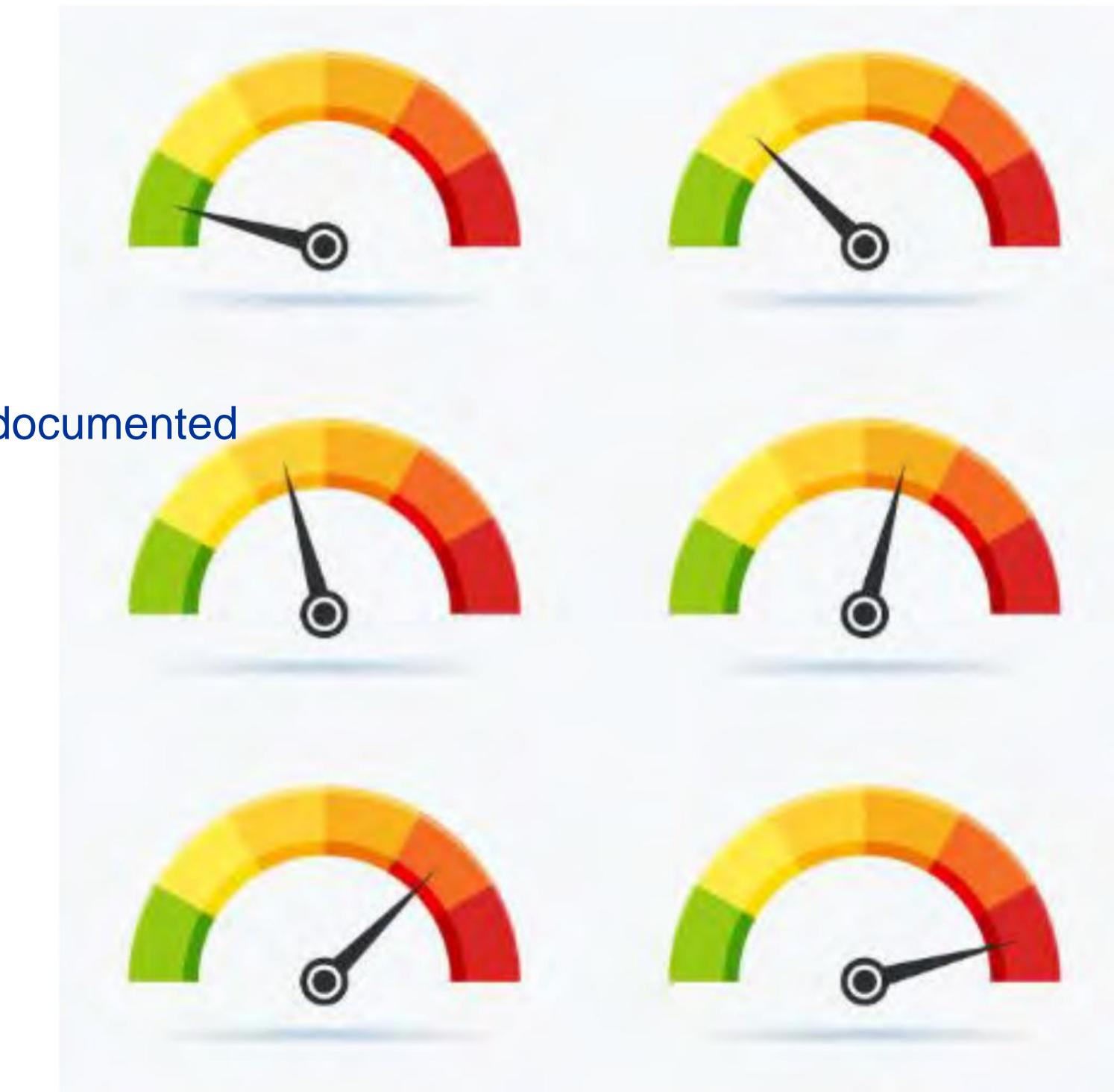


- Monitoring indicators are needed for every goal •

Improvement occurs through continuous

measurement and revision • Failures, as well as successes, must be documented

Performance Indicators





Monitoring and Reporting

- Indicators: energy consumption, emission reduction, etc.
- Periodic data + analysis + sharing
- Deviations are identified, the plan is updated



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- SECAP is a living system •
- Monitoring results = new actions • To the participant: 'Is this cycle included in your action plan?'

Online Management

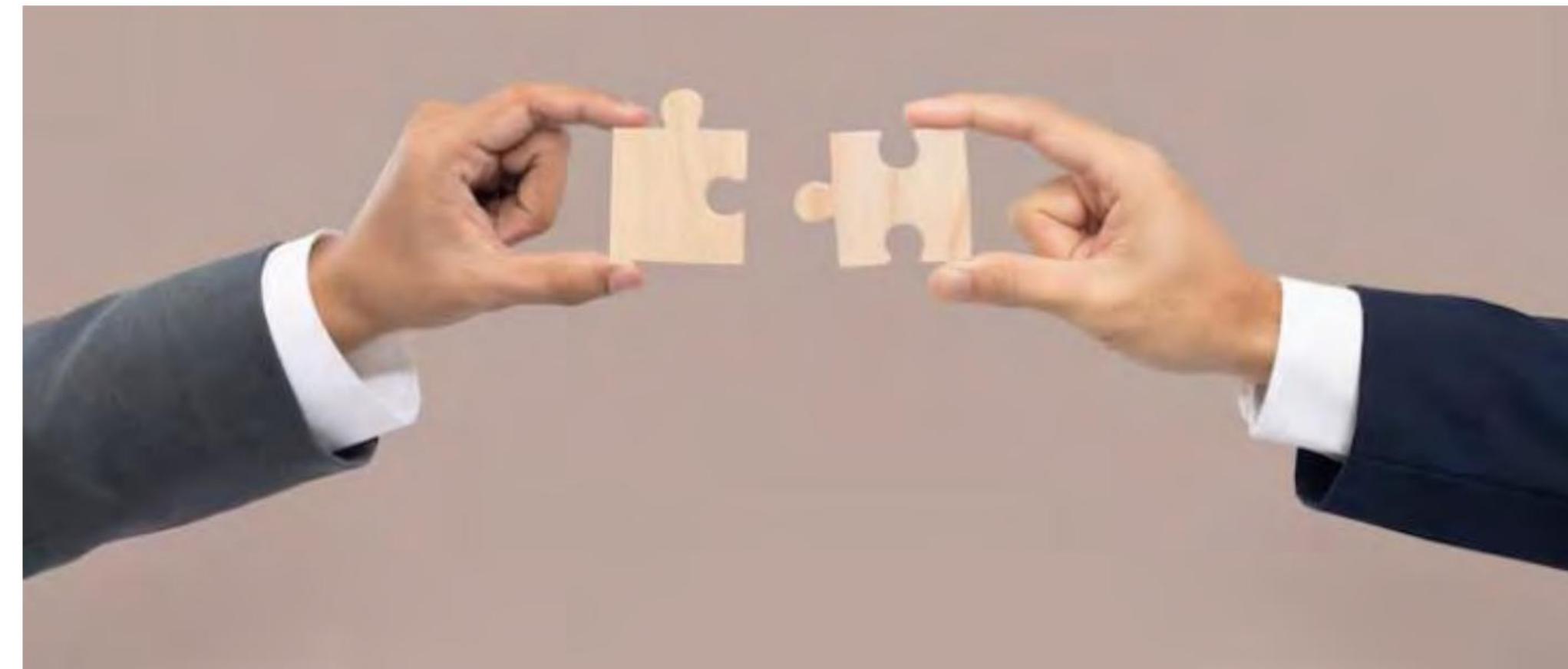


Compliance and Standards

- IPCC, GHG Protocol, ISO 14064 •

Emission methodology, verification, reporting format •

Compliance with EU and national legislation is required



- EF accuracy, base year selection, transparency period
- SECAP: Must be in a specific format for acceptance on EU platforms.
- Access to funds = compatible technical infrastructure

The Importance of Standards



Requirements in Türkiye

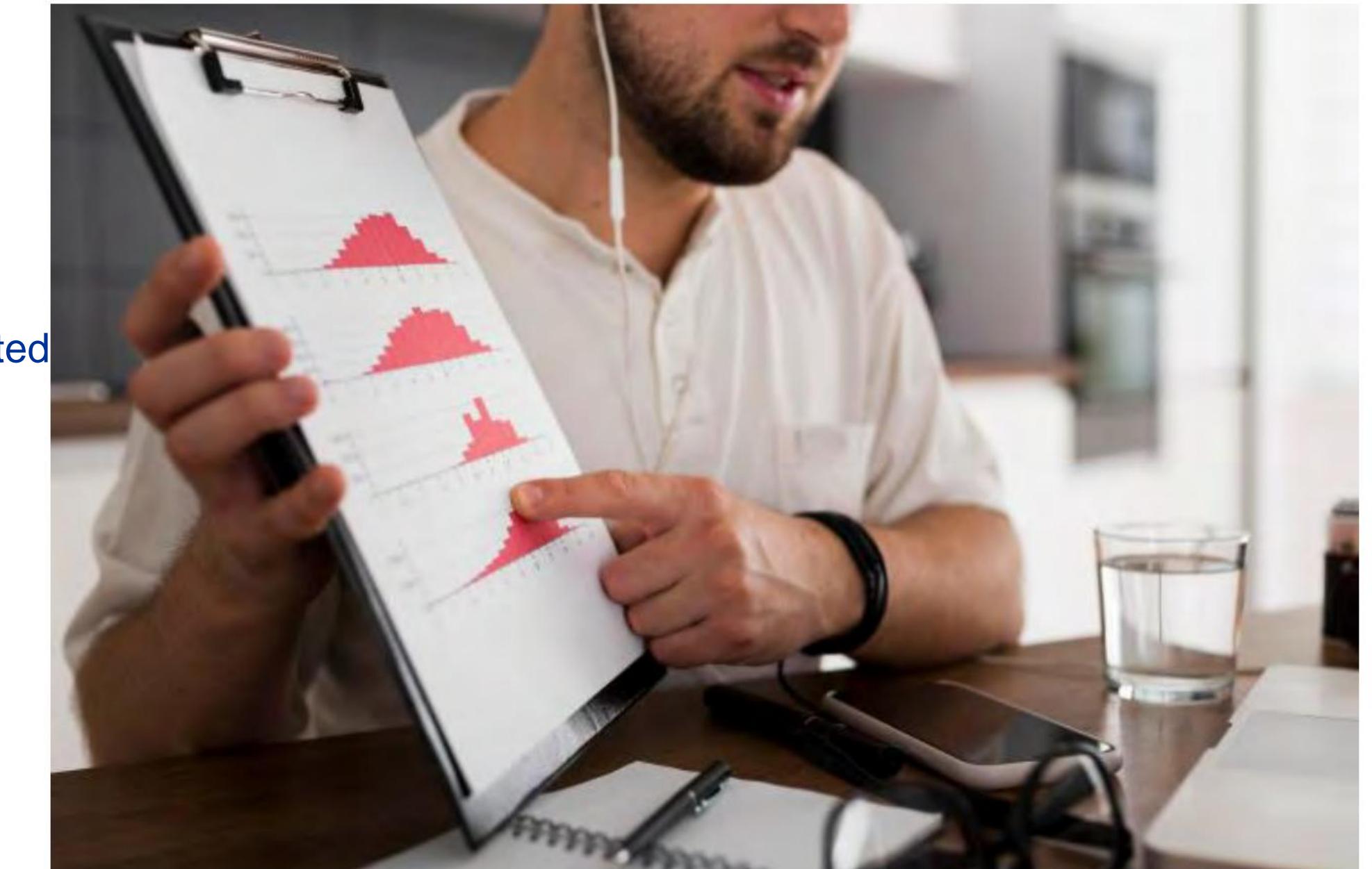
- Turkish Statistical Institute (TÜİK) and Ministry methodologies • EU and national simultaneous alignment target • Local reports = part of national climate policy

- Technical content + visuals + clear explanations •

Cause-and-effect relationships should be explained

- Successes + problems + lessons learned should be documented

Interpreting the Results



Report Presentation

- Stakeholder-specific summaries (management, technical, public)
- Graphics, infographics, concise explanations
- Builds transparency and trust



- Reports are carried forward into the future
- They fuel strategic decisions
- They are fundamental to long-term sustainability

Corporate Memory and Continuity



- Select a component from your own organization.
- Provide an example of how to integrate it into the reporting process. •

Create a presentation proposal suitable for the target audience.

Participatory Application





Thanks!

Question and Answer

STEP2CleanPlan

Module 3: Reporting and Review

Submodule 302: EU and National Climate Policies

301 D: COM and SECAP Framework

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS. UNION

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Agenda

- Local Level Climate Action • EU
Harmonization Process

What is CoM (Covenant of Mayors)?

- 2008 – EU-led initiative to encourage local governments to take climate action
- 2024 – 10,000+ local governments, 60+ countries
- Voluntary but committed: SECAP preparation and reporting •

Powerful tools for local implementation, awareness and stakeholder engagement





- Increased participation led by metropolitan cities
- Access to EU funds + international networks •

Leading cities such as Izmir, Gaziantep, and Bursa

CoM in Türkiye



Argument

- 'The Meaning of COM and SECAP for Uzunköprü'
- In your opinion, what opportunities and challenges would SECAP's transformation into a "living roadmap" bring for Uzunköprü?
- What new collaboration and funding opportunities can we realize through your district's participation in CoM?





What is SECAP? Key Elements

- SECAP: Sustainable Energy and Climate Action Plan •

Mitigation + adaptation integration • BEI

(Initial Emissions Inventory), risk analysis,

Action and monitoring

- Participatory and data-driven management model

 Funded by the European Union  MLGP4 CLIMATE 

SECAP: İklim Değişikliği ile Mücadelede Stratejik Yol Haritası

SECAP Nedir?
Sürdürülebilir Enerji ve İklim Eylem Planı (SECAP), belediyelerin sürdürülebilir enerji kullanımını sağlamaları ve iklim değişikliğiyle mücadele etmeleri için stratejik bir yol haritasıdır.

SECAP örneği için tıklayınız

Amaç
Sera gazı emisyonlarını azaltmak, iklim değişikliğine uyum sağlamak ve enerji verimliliğini artırmak.

Türkiye'nin İklim Politikaları ve SECAP Entegrasyonu
Türkiye'nin 2053 yılına kadar net sıfır hedefi SECAP'ın amacına uygundur.

Belediye Başkanları Sözleşmesi (CoM) Kapsamındaki Rolü
CoM, iklim hedeflerine ulaşmak için SECAP aracılığıyla şehirleri ve yerel yönetimleri bir araya getiriyor.

Neden önemlidir?

- **Yerel İklim Eylemi:** İklim değişikliğiyle mücadelede yerel yönetimlerin kritik rolünün vurgulanması.
- **Enerji Güvenliği ve Verimliliği:** Enerji tüketiminin azaltılması yoluyla ekonomik faydalara sahiplik.
- **Toplum Sağlığı ve Dayanıklılık:** Daha sağlıklı ve sürdürülebilir yaşam alanları yaratılması.

SECAP'ın Temel Kavramları ve Bileşenleri

- **Durum Analizi:** Sera gazı emisyon envanterinin hazırlanması.
- **Aksiyon Planı:** Azaltım ve uyum için ilgili ataların önceliklendirilmesi (enerji, ulaşım, atık, su yönetim).
- **İzleme ve Raporlama:** Eylemlerin ilerleyişinin düzenli olarak izlenmesi.

Harekete Geçme Zamanı!
Yerel düzeyde anlamlı değişim yaratmak için SECAP'ınızı hazırlayın ve uygulayın.

www.mlgp4climate.com
İletişim: trhelpdesk@globalcovenantofmayors.eu

İşbu etkileşimli sunucu, bilgi ve bilimsel pedagojik işbirliği ve Kalkınma Desteğinin bir parçası olarak hazırlanmıştır ve Birlik Belediyeler Birliği ve Türkiye Belediye Meclisi Proje İmzalı Akdeniz (OPAK) tarafından desteklenmektedir. Dörtüncü Dönem olan EUREKA projesi kapsamında hazırlanmıştır.



- Mitigation: renewable energy, efficiency, e-mobility •

Compliance: green infrastructure, disaster risk, early
warning • Performance indicators and digital monitoring

SECAP Components

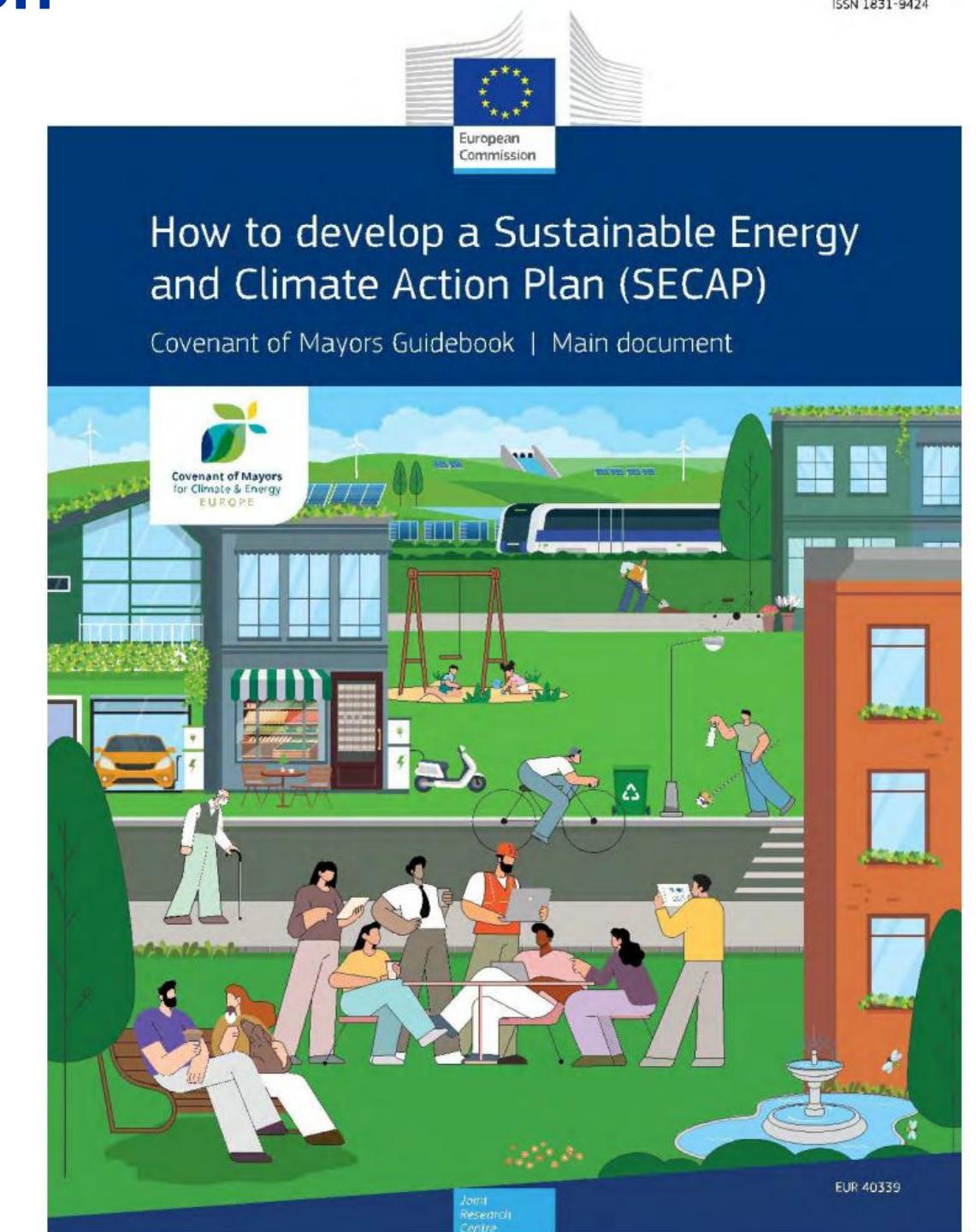




- JRC SECAP Guidebook (2022)
- Fully aligned with the EU's climate neutrality targets
- Continuous updating, reporting obligation

SECAP and EU Legislation

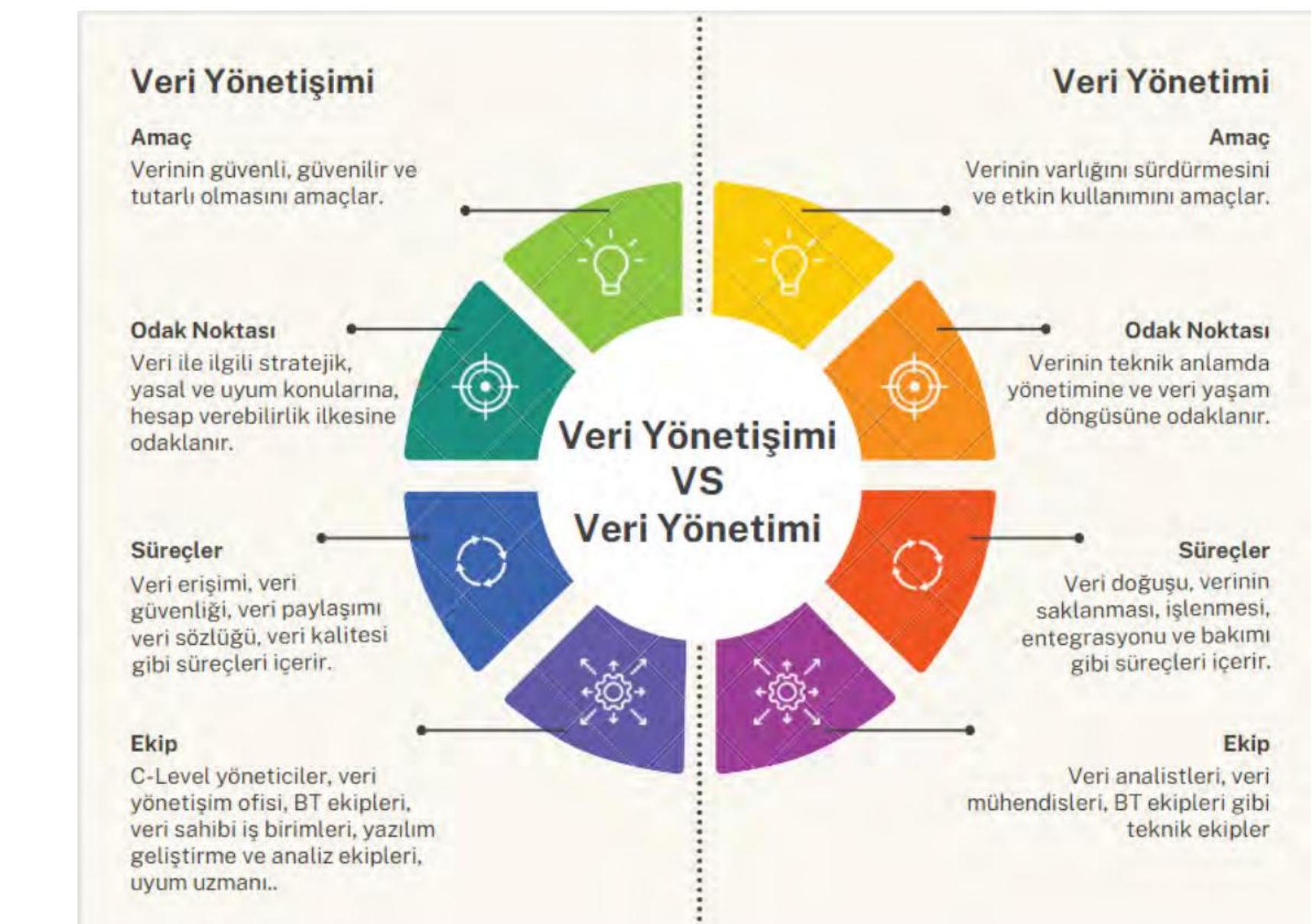
ISSN 1831-9424



<https://publications.jrc.ec.europa.eu/repository/handle/JRC142148>

- Accurate data = sound planning
- Disaster risks: spatial analysis + prioritization
- Inventory: energy, transportation, waste, industry

Data Quality and Mapping





Action Design

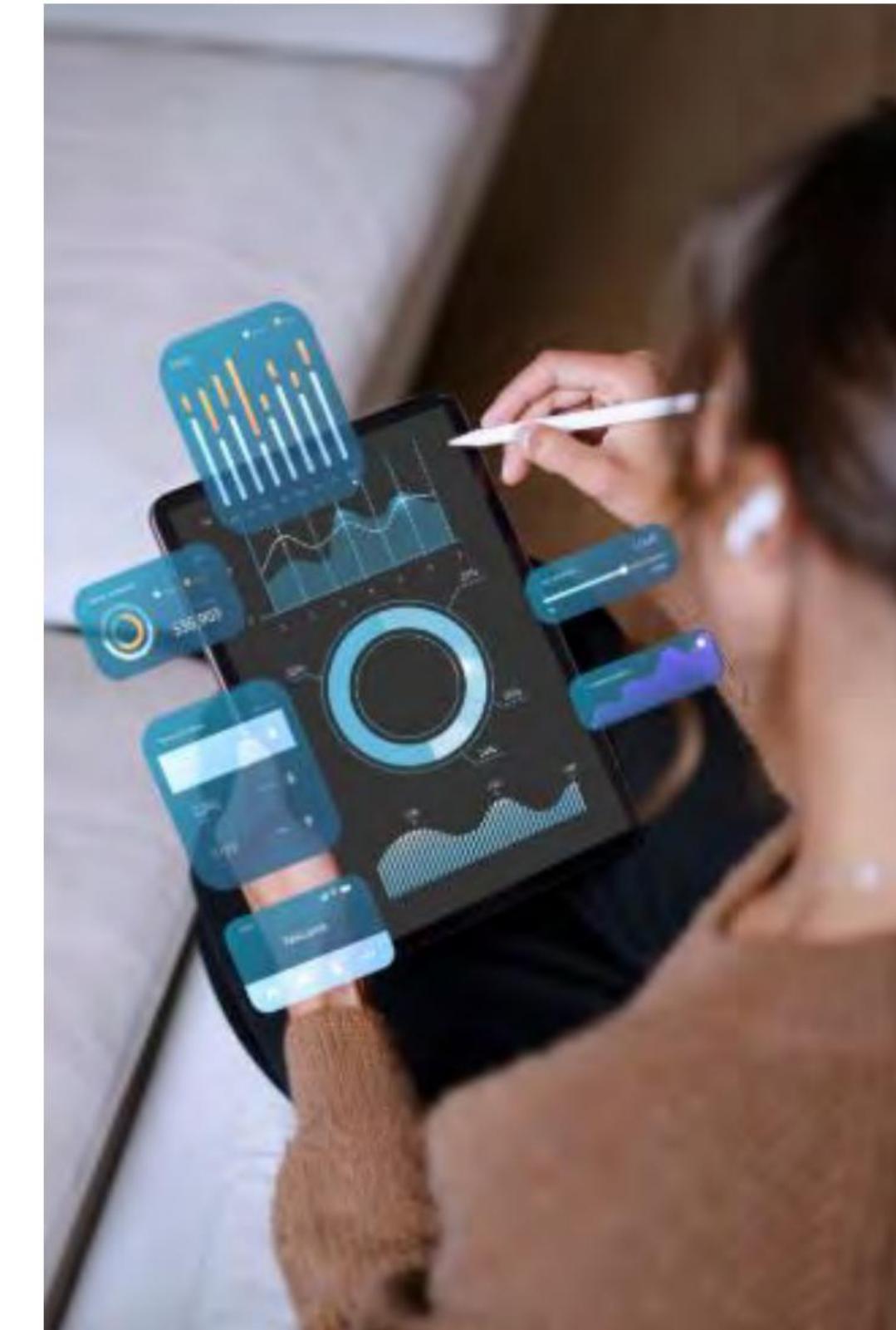
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- Energy: Solar power plant investment, e-
efficiency
- Transportation: Electric fleet, pedestrian+bicycle
infrastructure
- Adaptation: Green infrastructure, water management, community resilience



- Bi-yearly analysis of actual and planned performance via the CoM portal
- Monitoring with indicators + flexible updates

Monitoring and Digital Reporting



Opportunities and Responsibilities

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- Funding: EU funds, technical support •
- Visibility: participation in international networks
- Obligations: reporting, data quality, compliance



Benefits of Participating in SECAP

- Capacity building, consultancy, project prioritization •

Community participation: environmental councils, youth
forums • Innovative solutions + climate democracy





Compliance Monitoring and MRV

- MRV: Monitoring, Reporting, Verification infrastructure
- Numerical indicators + managerial responsibility •

National legislation + EU harmonization proceed together



Best Practice Examples – EU

- Copenhagen: e-transportation + carbon neutrality target
- Barcelona: sponge city, resilient streets
- Paris: green roof, cycle path policies



Best Practices – Türkiye

- Izmir: e-bus, energy efficiency •

- Gaziantep: smart city, solar energy •

- Bursa: industrial efficiency, carbon footprint

- Kadıköy: coastal protection, active citizenship



- Digital monitoring tools
- Zero-emission zones •

Nature-based solutions +
energy communities

New Trends





Future Perspectives – Türkiye

<https://www.resmigazete.gov.tr/eskiler/2025/07/20250709-1.htm>

- The Climate Law has entered into force.
- The national SECAP standard will be aligned with the EU.
- Local climate finance models will become more widespread.

9 Temmuz 2025 ÇARŞAMBA

Resmî Gazete

Sayı : 32951

KANUN

İKLİM KANUNU

Kanun No. 7552

Kabul Tarihi: 2/7/2025

BİRİNCİ KISIM
Genel Hükümler
BİRİNCİ BÖLÜM
Başlangıç Hükümleri

Amaç ve kapsam

MADDE 1- (1) Bu Kanunun amacı; yeşil büyümeye vizyonu ve net sıfır emisyon hedefi doğrultusunda iklim değişikliğiyle mücadele etmektir.

(2) Bu Kanun; iklim değişikliği ile mücadelede esas olan sera gazı emisyonlarının azaltılması ve iklim değişikliğine uyum faaliyetleri ile planlama ve uygulama araçlarını, gelirleri, izin ve denetimi ve bunlara ilişkin yasal ve kurumsal çerçevelen usul ve esaslarını kapsar.

Tanımlar

MADDE 2- (1) Bu Kanunun uygulanmasında;

a) Adil geçiş: İklim değişikliğiyle mücadelede ve yeşil büyümeye sürecinde; çocuklar, kadınlar, yaşlılar, engelliler gibi süreçten en fazla etkilenebilecek kişiler öncelikli olmak üzere herkesi kapsayacak, istihdam sürecinin uygun tedbirler alınarak yönetildiği ve yeni istihdam alanlarının oluşturulduğu, ekonomik, çevresel ve sosyal kazanımların en üst düzeyde tutulduğu politika ve uygulamaları,

b) Bakan: Çevre, Şehircilik ve İklim Değişikliği Bakanını,

c) Bakanlık: Çevre, Şehircilik ve İklim Değişikliği Bakanlığını,

ç) Başkan: İklim Değişikliği Başkanını,

d) Başkanlık: İklim Değişikliği Başkanlığını,

e) Birincil piyasa: Tahsisatların piyasa katılımcılarına ihale yöntemiyle dağıtımını sağlamakla yönelik işlemlerin yapıldığı piyasayı,

f) Denkleştirme: Karbon kredilerinin Emisyon Ticaret Sistemi kapsamında veya gönüllü taahhütlerin yerine getirilmesinde kullanılmasını,

g) Emisyon Ticaret Sistemi (ETS): Sera gazı emisyonlarına, net sıfır emisyon hedefine uygun bir üst sınır belirlenmesi ilkesine dayalı olarak çalışan ve tahsisatların alınıp satılması suretiyle sera gazı emisyonu azaltımı teşvik eden ulusal ve/veya uluslararası piyasa temelli mekanizmayı,

g) Emisyon Ticaret Sistemi piyasası (ETS piyasası): Tahsisatların ve/veya emisyon ticaretine ilişkin uygun görülen standartlaştırılmış diğer sözleşmelerin alım satımının gerçekleştirildiği, piyasa işletmecisi tarafından organize edilip işletilen ve düzenli faaliyet gösteren birincil ve ikincil piyasaları,

h) Esneklik mekanizmaları: ETS'de yer alan işletmelere tahsisat teslimat yükümlülüklerini yerine getirirken bir önceki veya bir sonraki dönemin tahsisatlarını kullanma hakkı ile denkleştirme kullanımı ve benzeri imkânlar sağlayıcı süreçleri,

i) Gömülü sera gazı emisyonları: Bir ürünün üretim sürecinde ortaya çıkan doğrudan emisyonları ve ürünün üretim sürecinde elektrik, ısı, buhar, soğutma ve basınçlı hava gibi enerji kaynaklarından dolayı



Argument

- 'What are the next steps for Uzunköprü Municipality regarding SECAP?'





Thanks!

Question and Answer

Module 3: Reporting and Review

Submodule 302: EU and National Climate Policies

302 E: EU-Türkiye Comparison

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS. UNION

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Agenda

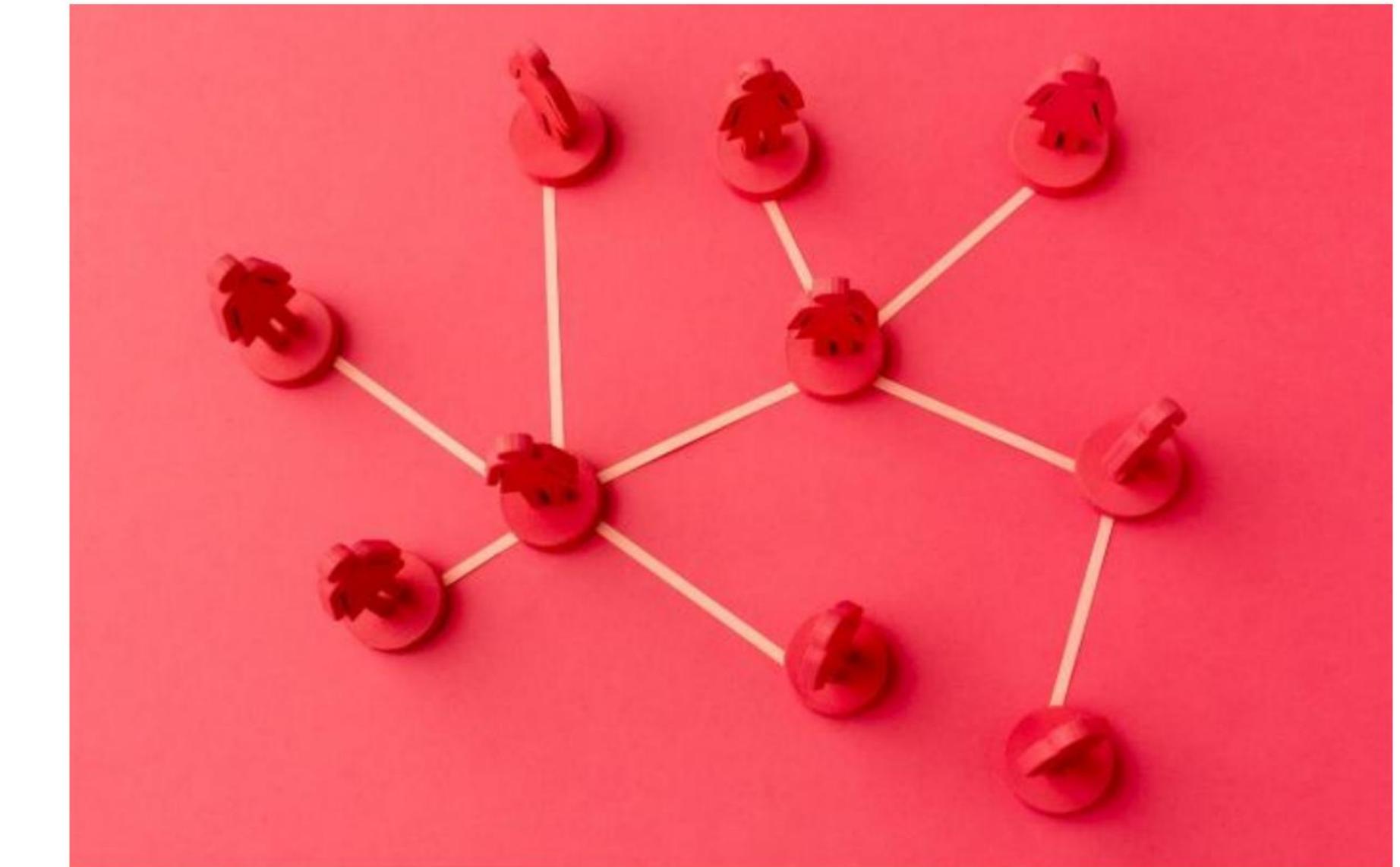
- Policies
- Emissions
- Sectors
- Financing
- MRV

Overview of Climate Policies

- EU ی Climate strategies since 1990; accelerated with the 2019 Green Deal • 2050: Climate neutrality target
- 2030: 55% emission reduction target •
- Türkiye ی 2021 Paris Agreement ratification •
- 2023 NDC: 41% reduction target
- 2053 Net Zero Vision



- EU policies are legally binding and subject to oversight.
- Policies in Turkey are largely based on voluntarism.
- This situation creates differences in monitoring and reporting processes.



Strategic Differences and Partnerships

- EU: Fit for 55, CBAM, Green Financing, Digital Climate Monitoring
- Türkiye: flexible adaptation process, financing and technology transfer objective
- Common focus: energy transformation, efficiency, social awareness





Emission Reduction Policies – EU Perspective

- Significant reductions were achieved in sectors covered by ETS
- Fit for 55 expanded areas such as buildings, transportation, and agriculture
- Clean technology and carbon capture solutions are being encouraged



Emission Reduction Policies – A Turkish Perspective

- Investments in renewable energy are increasing.
- The transition process from fossil fuels is slower.
- National ETS infrastructure is being developed; Türkiye Carbon Draft Regulation on Lending and Equalization and The draft regulation on Turkey's Emissions Trading System has been published.
- The Climate Law has come into effect.



CBAM and ETS Alignment Process

- Türkiye will be the most affected under the CBAM. between countries
- Compliance is mandatory in sectors such as iron and steel, cement, and aluminum.
- The domestic ETS system is being designed to facilitate this integration.



Energy Policies – The EU and Türkiye

- EU: Target of 40% renewables in 2023 and 50% in 2030.
- Türkiye: 56% renewables (2023)
- EU: smart grid and storage systems investment
- Türkiye: grid modernization and small-scale solar power projects



Transportation Policies and Electric Vehicles

- EU: Target of stopping sales of new vehicles with internal combustion engines by 2035.
- Türkiye: electric vehicle production (TOGG), 120,000 EVs, increase in charging infrastructure.
- Transition to electric vehicles in public transportation annoyed



Digitalization and Green Transformation

- EU: Digital Carbon Tracking,
AI integration in MRV systems
- Türkiye:
Data infrastructure is developing, CoM—
The transition to SECAP portals has begun.





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Financing Models – EU

- €1 trillion investment target (2030)
- European Climate Bank, Horizon Europe, Just Transition Fund

• Green Bonds and sustainable loan systems





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Financing – Türkiye

- \$1.5 billion in climate finance (2023)
- Projects funded by TKYB, IPA, and the World Bank
- Financing programs for municipalities are still limited



Green Financing and Corporate Structures

- The EU is implementing a Sustainable Finance Taxonomy. •
- Legislation is evolving in Turkey, but private sector access is limited. •
- Green Bond applications are at the pilot stage.



MRV – Monitoring, Reporting, Verification

- EU: Digital MRV systems integrated with ETS
- Turkey: A basic inventory system exists under the coordination of TURKSTAT (Turkish Statistical Institute).
- MRV implementation with the 2024 Climate Law will become mandatory





MRV and Local Governments

- EU: Digital and indicator-based monitoring in CoM and SECAP systems •

Turkey: The number of municipalities implementing SECAP

is increasing • Data currency and accuracy issues are common





Social Participation and Climate Justice

- EU: Social protection mechanisms through the Just Transition Fund

- Turkey: Awareness projects with NGOs, women's and youth groups

- Community-based planning is not yet widespread





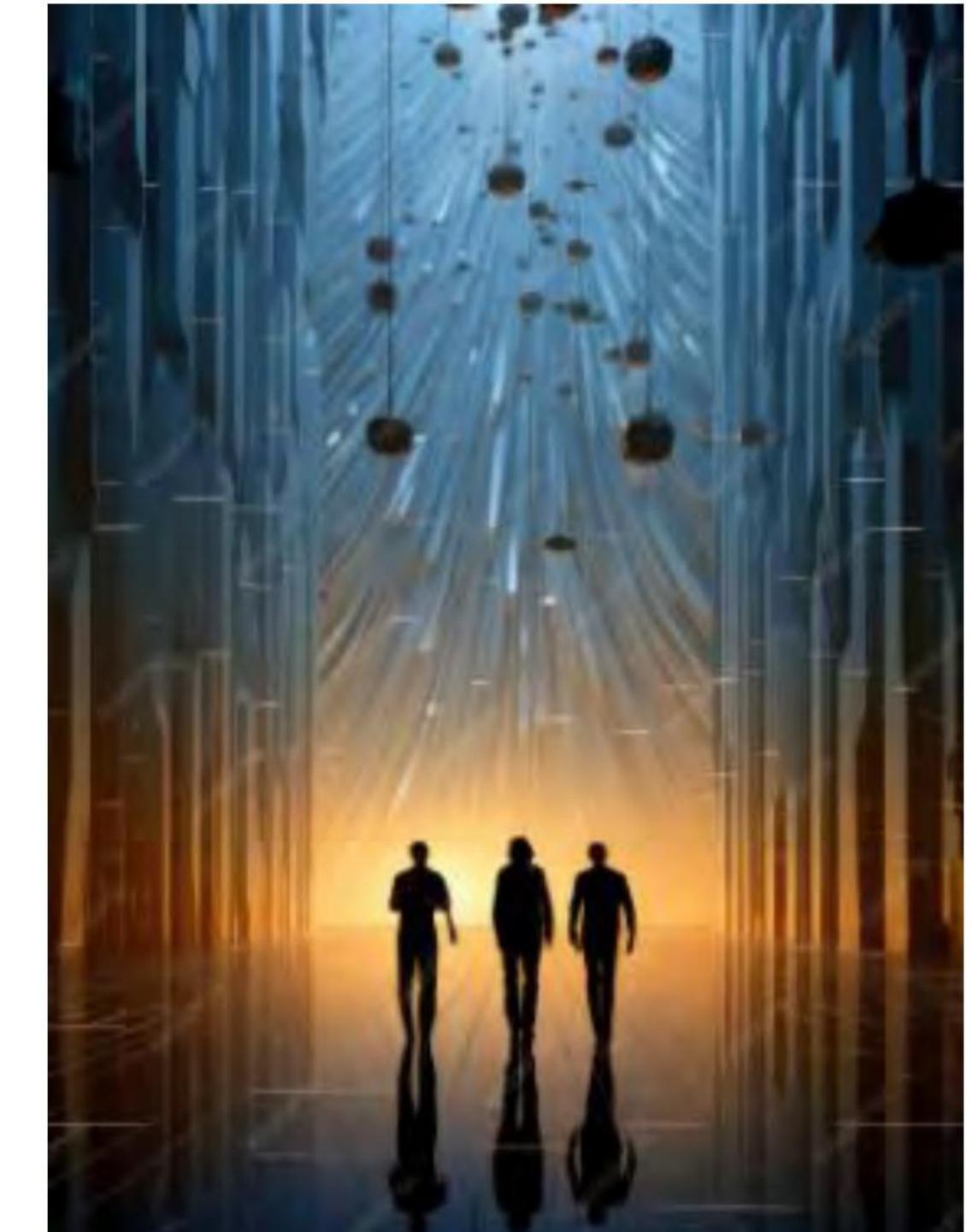
Argument

- 'What step should your organization take in this integration process?'



- Joint investment and R&D projects
- New calls for proposals under Horizon Europe and IPA III
- Mutual capacity building and digital climate monitoring infrastructure

Future Perspectives and Partnerships





Thanks!

Question and Answer

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Module 3: Reporting and Review

Submodule 302: EU and National Climate Policies

301C: EU Green Deal

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS. UNION

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Agenda

- Policy Structure
- Sectors
- CBAM
- Financing
- Turkish Harmony



EU Green Deal: Aims and Framework

- 2050 target: Climate-neutral Europe
- 2030 interim target: 55% emission reduction (compared to 1990 levels)
- Fit for 55 packages: integration of targets into legislation
- Energy, industry, transport, agriculture, digitalization and social dimensions



Green Deal: Strategic Goals

- Clean energy and carbon pricing •
- Circular economy and sustainable production
- Farm-to-table and biodiversity strategies •
- CBAM and just transition mechanisms



Social Implications

- Just transition: retraining, social protection •
- New employment opportunities supported by digital and green innovation
- European Climate Bank and green financing tools





Argument

- 'Do you think climate neutrality is purely an environmental goal?'



- 2030: Target of 42.5% renewable energy share
- Reduction of fossil fuels, investments in green hydrogen
- Energy efficiency directives: focused on buildings and industry transformation

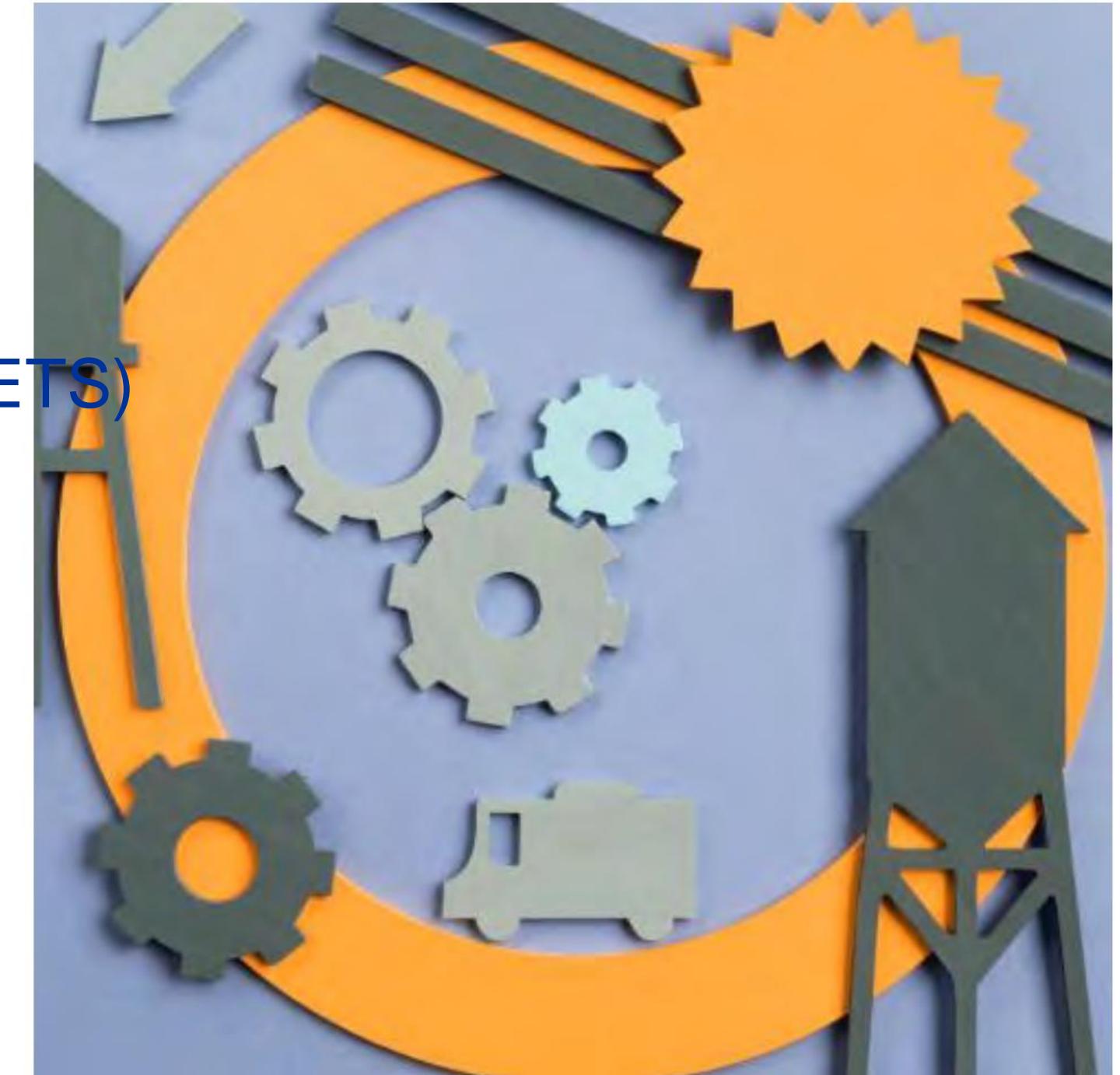
Sectoral Policies – Energy





- Industrial Emissions Directive •
- Eco-design and lifecycle standards •
- Expansion of the EU Emissions Trading System (EU ETS)

Sectoral Policies – Industry



Sectoral Policies – Transportation

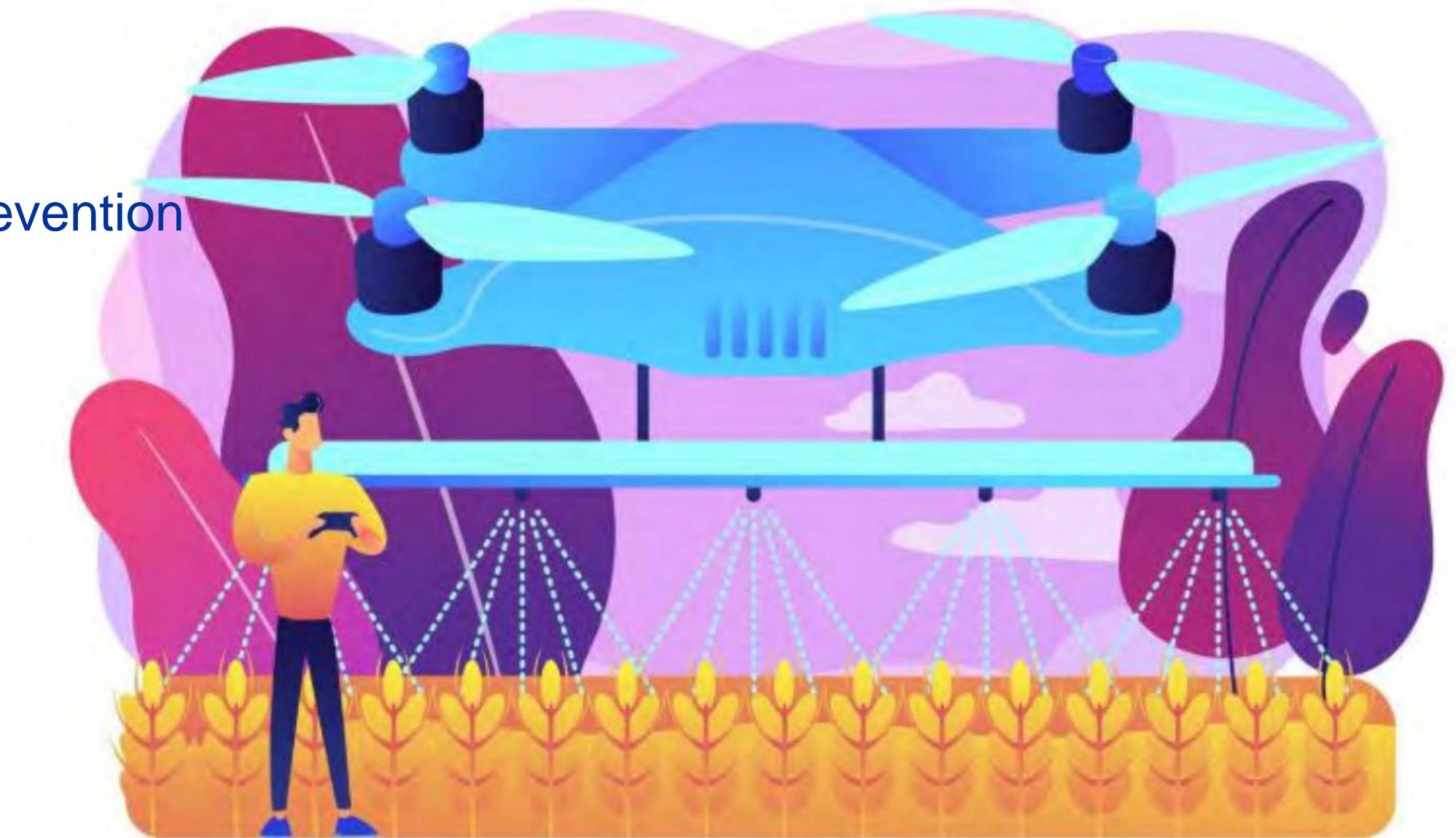
- 2035: The end of new gasoline and diesel vehicle sales
- Electric vehicle incentives, zero-emission zones
- Digitalization in logistics and the use of alternative fuels

Sectoral Policies – Agriculture

- Farm-to-Table strategy •

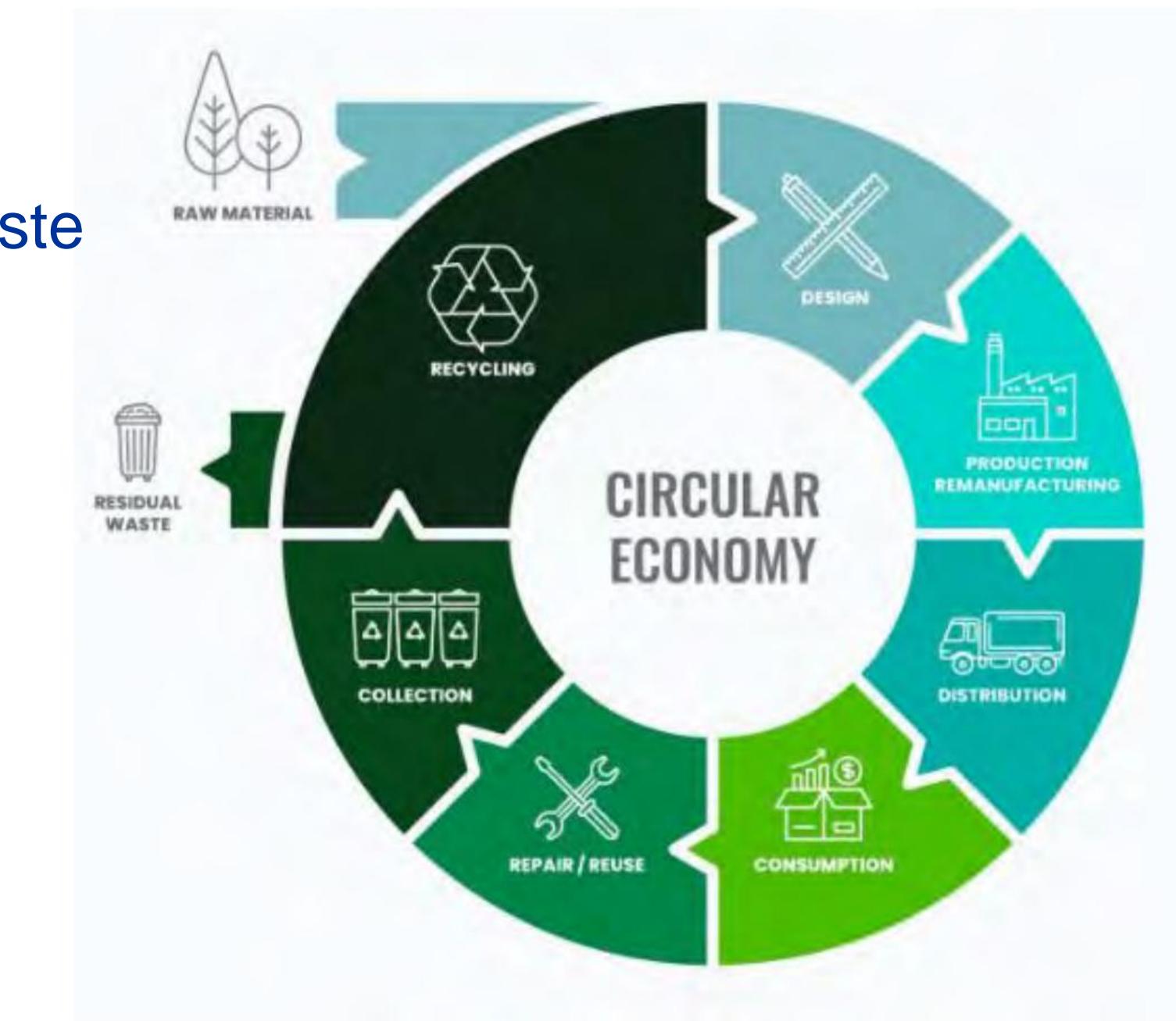
Reduction of pesticides, fertilizers, and

antibiotics • Organic farming and food waste prevention



- Recycling, reuse, zero waste • Special regulations for electronic, textile, and construction waste
- Resource-efficient production and consumption

Sectoral Policies – Circular Economy



CBAM: Mechanism and Purpose

- Border Carbon Adjustment (CBAM): preventing carbon leakage
- Carbon cost offsetting in non-EU production • Full implementation from 2026



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CBAM: Scope and Operation

- Sectors: cement, iron and steel, aluminum, fertilizers, electricity, hydrogen
- Mandatory reporting and purchase of CBAM certificate •

Certificate price: Indexed to the EU ETS





• Turkey: High-risk country for exports to the EU •

Sectors: iron and steel, cement, aluminum, chemicals •

Compliance: carbon footprint measurement, MRV, clean production

CBAM and Türkiye





Argument

- 'What would be the first step in your organization to comply with CBAM?'



- €1 trillion investment target (by 2030) • European Climate Bank, green bonds, sustainable loans
- EU Taxonomy of Sustainable Finance

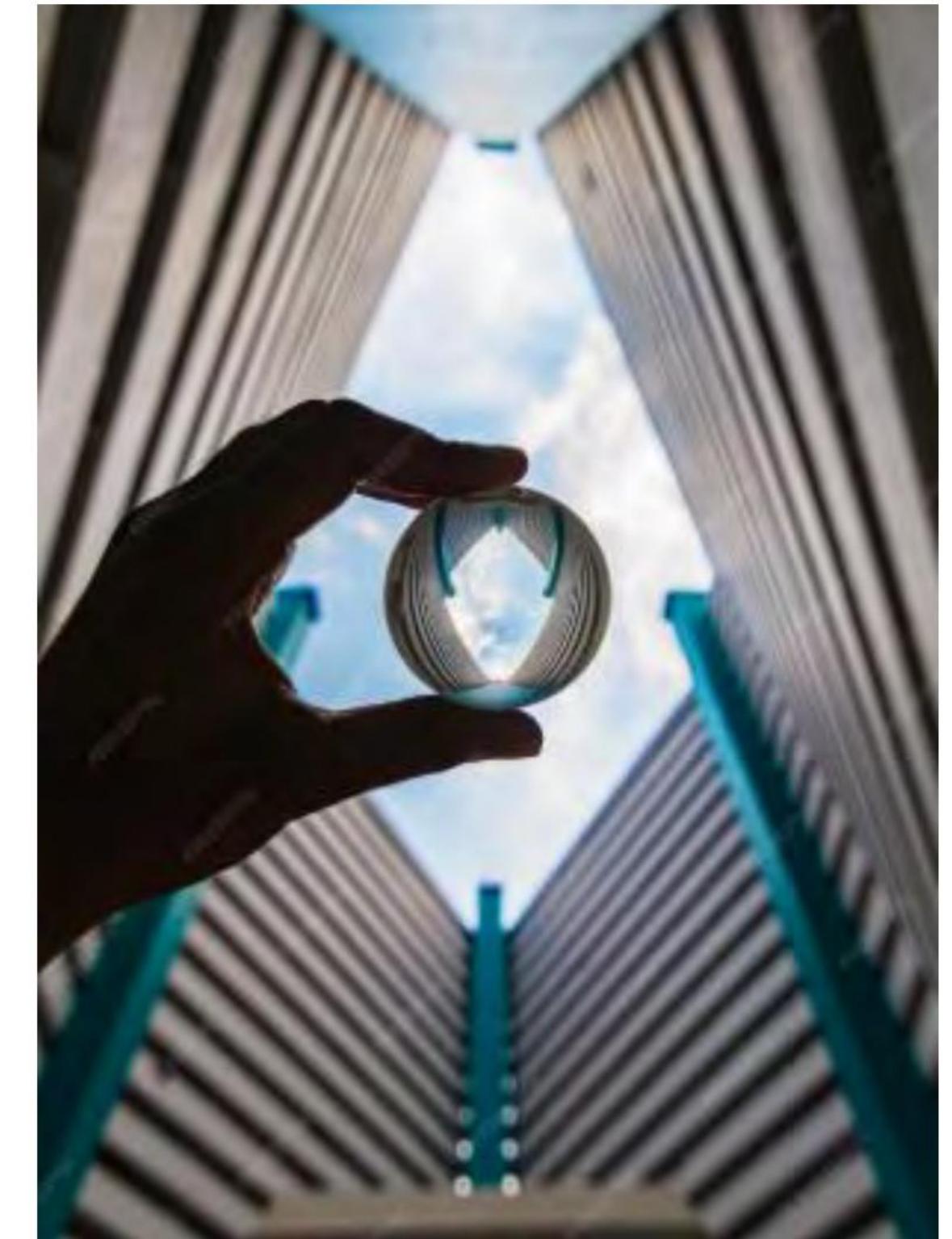
Green Financing





- Horizon Europe support •
- Clean energy, storage, low-carbon industries •
- Public-private partnership and start-up incentives

Innovation and R&D



- Smart grids, IoT energy management
- Big data, digital carbon accounting •

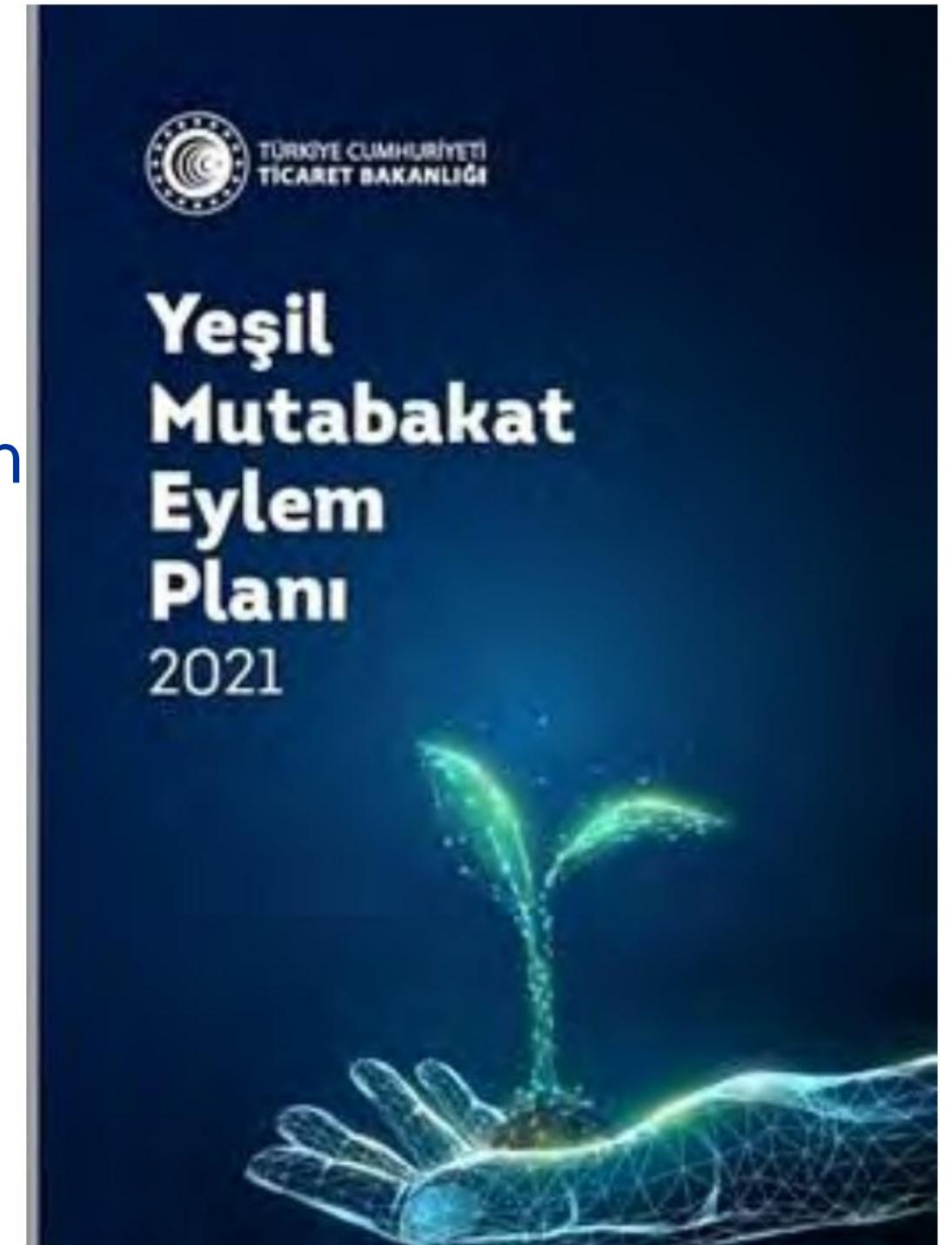
Industry 4.0 and digital passport applications

Digitalization Policies



- 2021: Ministry of Trade Green Deal Action Plan • 9 chapters, 32 actions
- Focuses on CBAM, circular economy, financing, and digitalization

Türkiye's Adaptation – Action Plan



Current Adaptation Process

• 41% export rate to the EU •

Training in 50+ sectors, CBAM roadmaps •

Preparations for Turkey's Emissions Trading System (ETS)

TÜRKİYE EMİSYON TİCARET SİSTEMİ YÖNETMELİĞİ TASLAĞI

BİRİNCİ KISIM

Genel Hükümler

BİRİNCİ BÖLÜM

Başlangıç Hükümleri

Amaç

MADDE 1 – (1) Bu yönetmeliğin amacı, sera gazı emisyonlarının izlenmesi, raporlanması ve doğrulanması ile Emisyon Ticaret Sisteminin uygulanmasına dair usul ve esasları düzenlemektir.

Kapsam

MADDE 2 – (1) Bu yönetmelik,

a) EK-1'deki listede yer alan faaliyetlerden kaynaklanan sera gazı emisyonlarının izlenmesi, raporlanması ve doğrulanması iş ve işlemleri ile doğrulayıcı kuruluşların ve işletmelerin yükümlülüklerinin belirlenmesine dair usul ve esaslar ile;

b) Emisyon Ticaret Sisteminde kapsama dahil faaliyetleri, Emisyon Ticaret Sisteminin uygulanabilmesine ilişkin iş ve işlemleri, bu iş ve işlemleri gerçekleştiren gerçek ve tüzel kişiler ile yetkili mercilerin yetki ve sorumluluklarını kapsar.

(2) Araştırmanın yapıldığı, yeni ürün ve proseslerin geliştirildiği ve test edildiği tesisler

- NDC 2023: Target of a 41% reduction
- 2053 Net Zero Vision • Zero
- waste, green industrial zones, smart agriculture, digital MRV

Current Policies and Projects



Future Perspective

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- 2025: ETS implementation, mandatory digital MRV
- 2026: Expansion of CBAM scope
- Green employment, new funds, deepening EU alignment



Argument

- 'What is the most critical compliance step in your organization within the last two years?'



Thanks!

Question and Answer

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Module 3: Reporting and Review

Submodule 302: EU and National Climate Policies

302B: NDC and 2053 Targets

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS. UNION

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Agenda

- National Contribution Statement
- Net Zero
- MRV Process

What is NDC and its Global Significance?

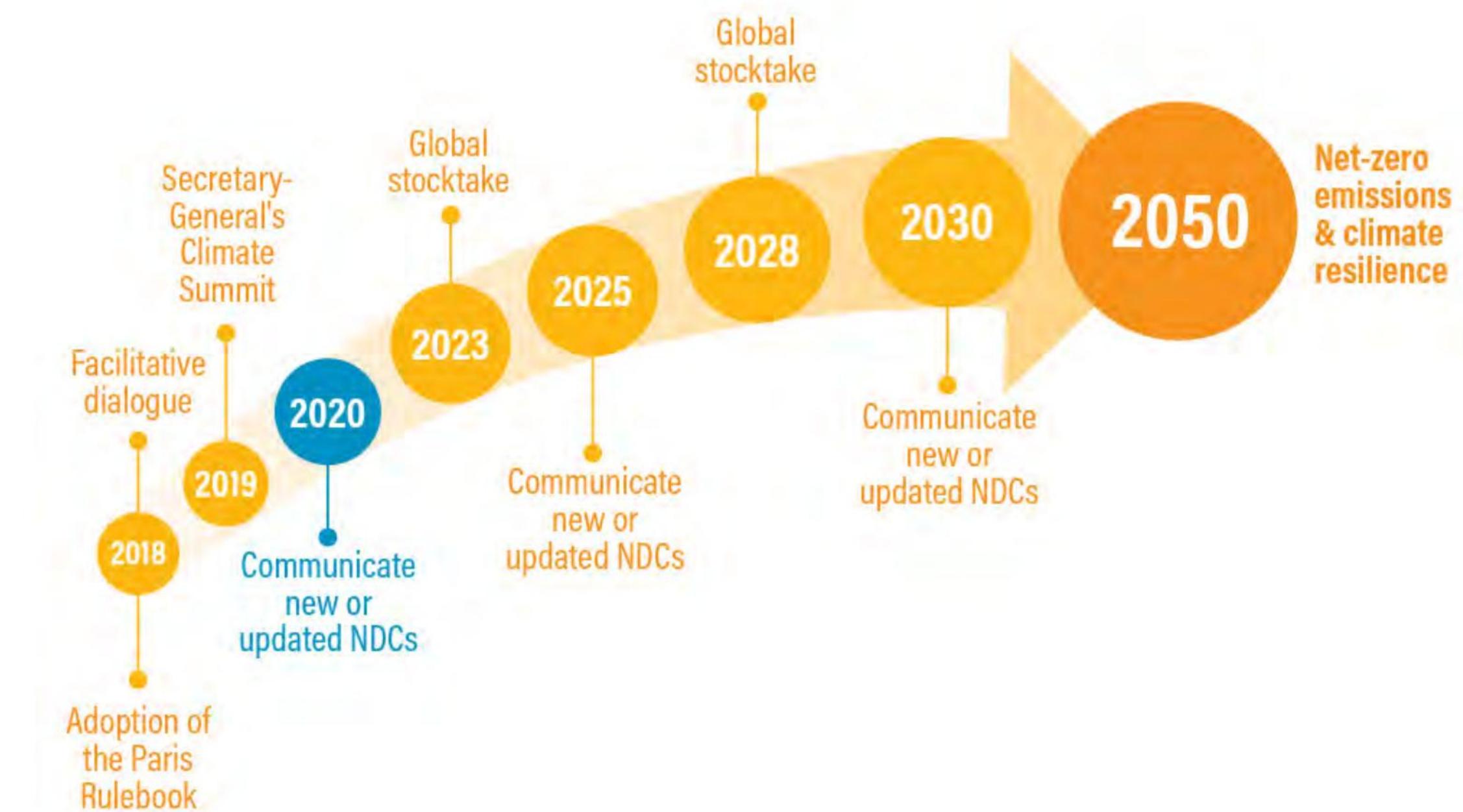
- NDC: Nationally Determined Contribution (National Contribution) (Statement)
- The basic structure of the Paris Agreement stone
- Each country sets its targets according to its economic and social capacity.
- It encompasses the dimensions of mitigation, adaptation, financing, and technology .



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- Bottom-up approach:
adaptation to
national conditions.
- Transparency,
accountability, progress
tracking
- Linked to the goal of limiting
global temperature
increase to 1.5°C

NDC – Conceptual Emphasis



- 'Why is each country's NDC different?'
- Does your organization have similar commitments?

Participant Interaction



- Presented in 2015 under the Paris Agreement
- Reduction from growth to 21% by 2030
- Energy, transportation, agriculture, industry, waste, land use sectors

Türkiye's First NDC



Essential Elements in the First NDC

- Not absolute reduction, but a slowdown compared to the reference scenario •

- Prioritization of renewable energy, efficiency, and green transportation •

- Adaptation targets in agriculture, disaster management, and water resources



Fair Burden Sharing and Participation

- Emphasis on financing, technology transfer and capacity building.
- Multi-stakeholder participation and monitoring-reporting



- 2021 – Announcement of net zero target
- Not zero emissions: emissions + sink = equilibrium
- The goal is a carbon-neutral society and economy .

2053 Net Zero Emissions Target



- Sectors: energy, industry, transportation, agriculture, waste
- Strategies: renewable energy investments, phasing out coal, zero waste
- Carbon capture technologies and natural sinks

2053 Roadmap





Compliance with the Green Deal

- Integration with EU policies •
- Carbon market, border carbon regulations •
- Goals combined with sustainable development





- 'Is the 2053 target realistic?'
- What is your own organization like?
Does it contribute to or is it affected by?

Participant Discussion

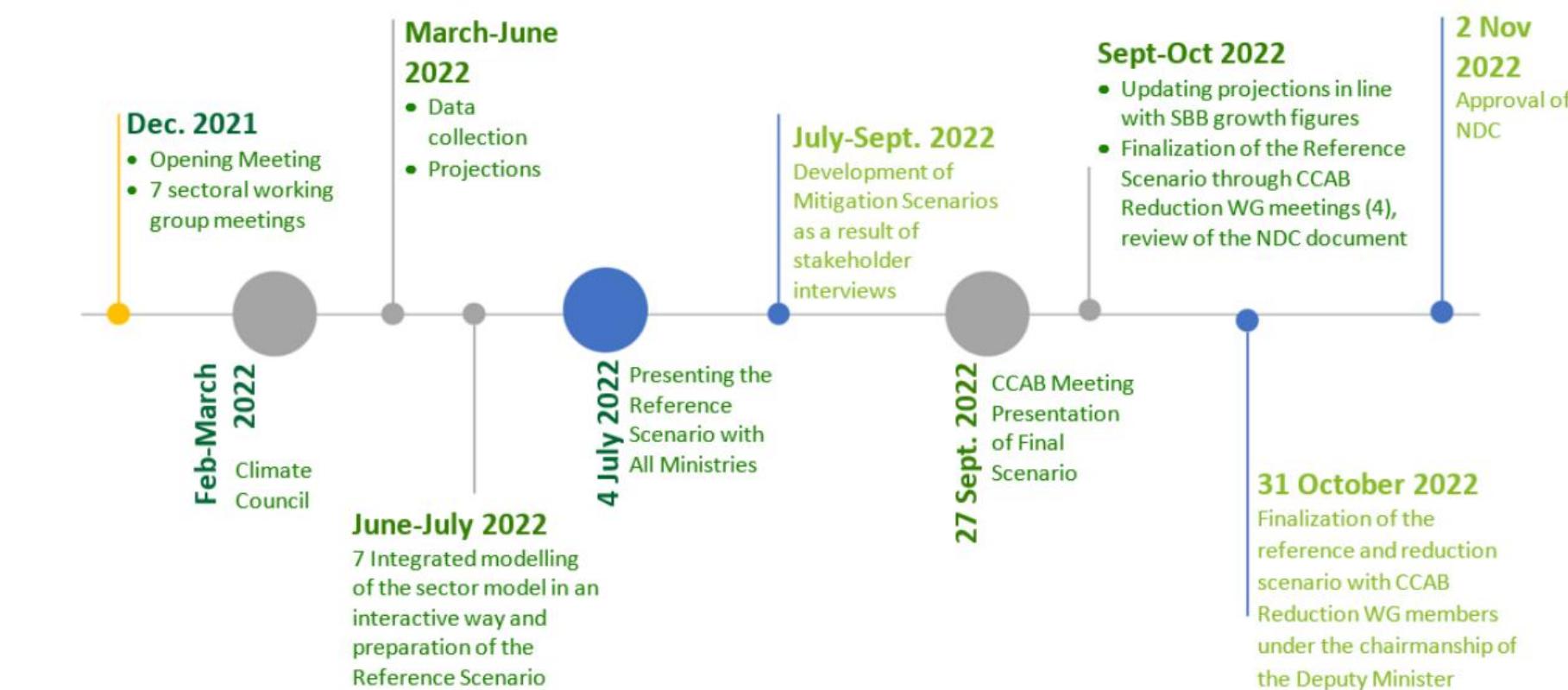


2023 NDC Update

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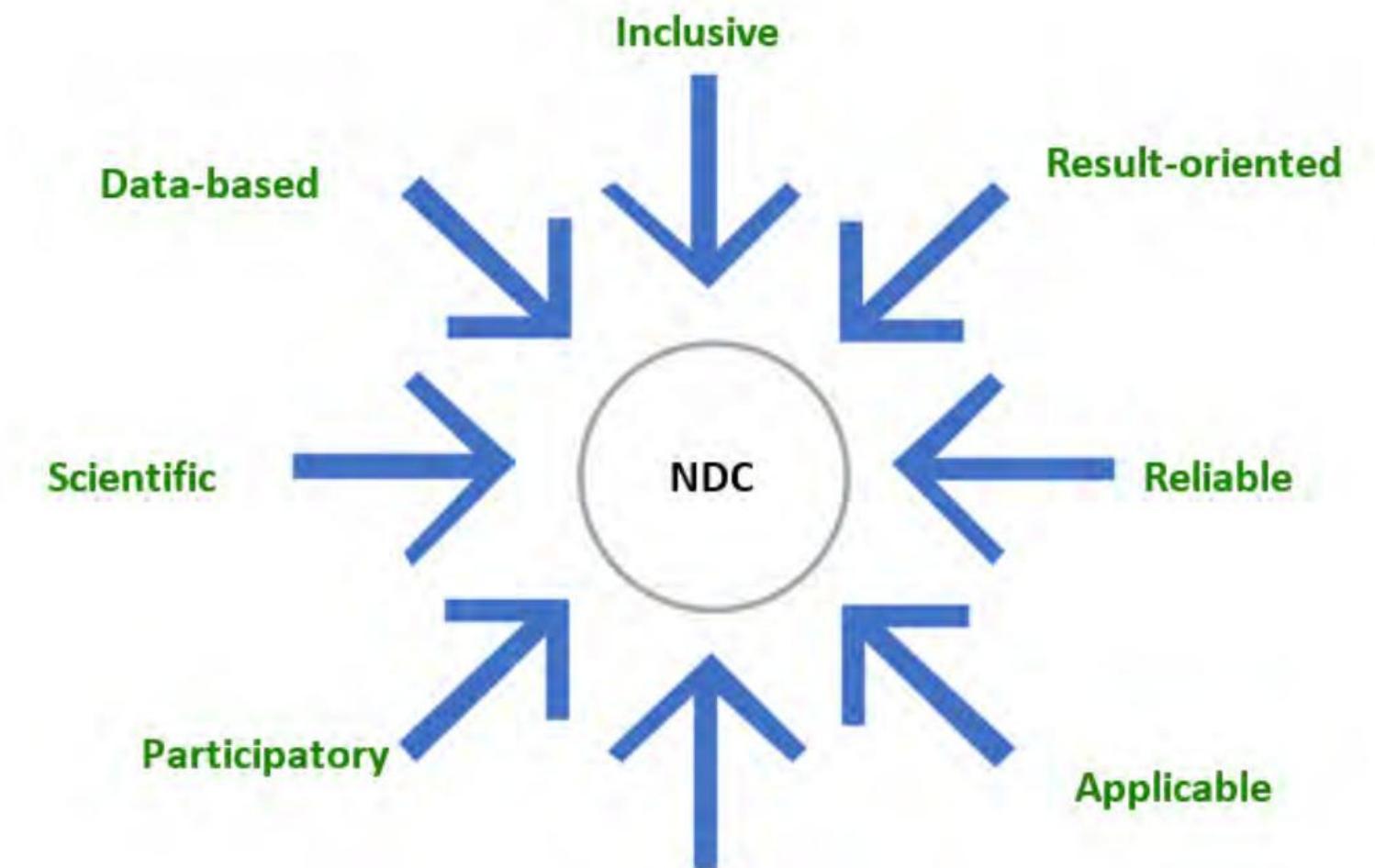
- New target: 41% reduction (by 2030) •

Quantitative increase + sectoral and institutional deepening • Strengthening MRV systems



Updated NDC – Major Changes

- Energy: increase in renewable power, phasing out fossil fuels
- Transportation: electric vehicles, transformation in public transport
- Industry: clean production, circular economy



- Agricultural drought, water management, disaster resilience
- Ecosystem and biodiversity strengthening
- Local adaptation plans against natural disasters



Advanced MRV and Application

- Indicator-based roadmap for each sector
- Monitoring in compliance with the EU – reporting system
- Finance and technology mechanisms within NDC



- MRV: Monitoring, Reporting, Verification • Turkish Statistical Institute (TÜyK) inventory + sectoral reports • Indicator-based performance tracking

MRV – Monitoring and Reporting



- Ministry coordination
- Municipalities, sector representatives, private sector
- Shared digital system and continuous updating

Corporate Responsibilities



- SECAP mandatory compliance
- Participatory planning, open data policies
- Social awareness and compliance projects

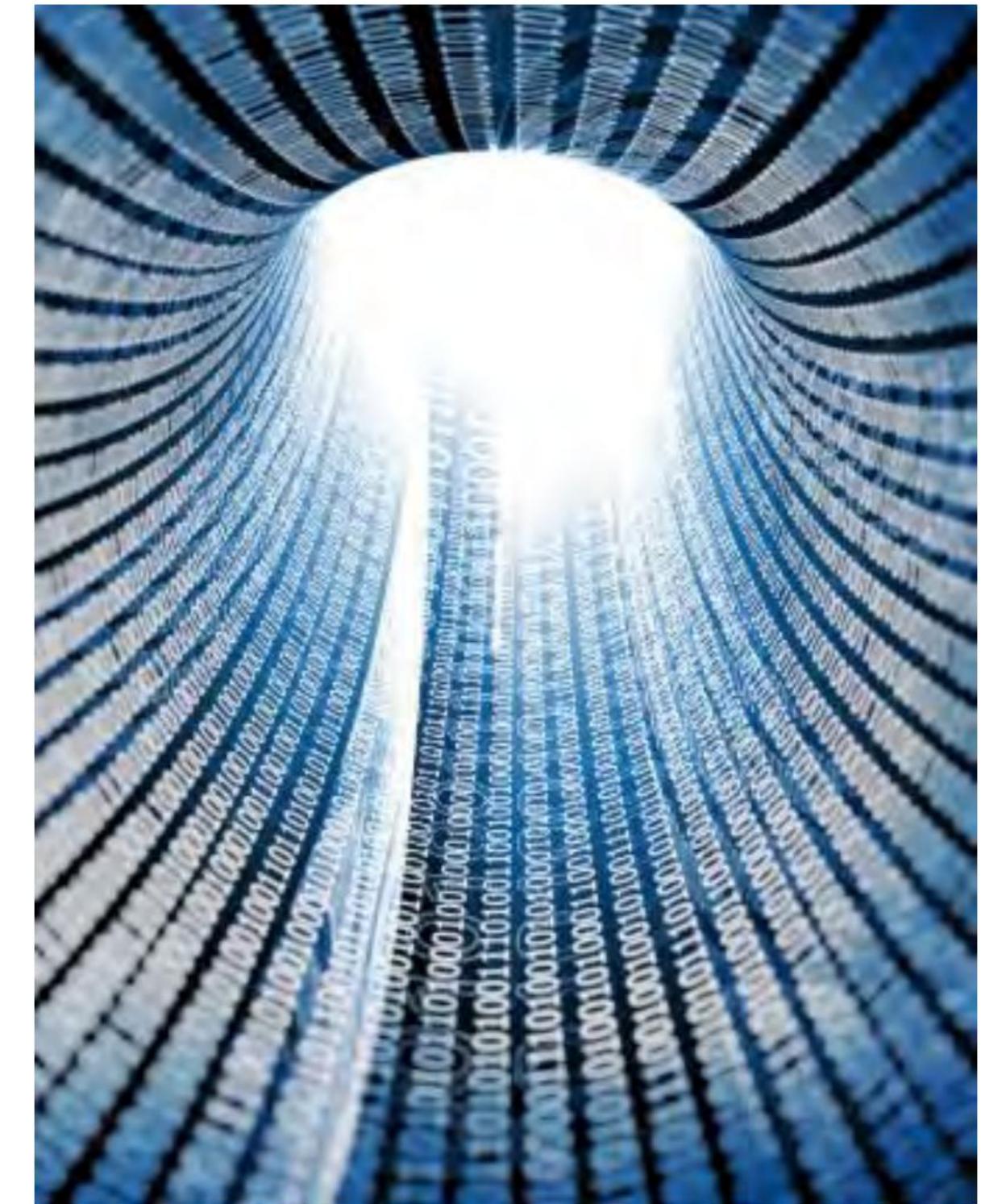
Transformation in Local Governments





- Carbon markets and pricing systems
- Just transition: employment, education, inequality reduction
- Digitalization, innovation, private sector participation

Future Perspective



- Target in your own sector –
Extract application-indicator instance
- A shared group evaluation is conducted.

Participant Application



- IPCC AR6, Paris Agreement •
- Turkey NDC Documents (2015, 2023) •
- Introduction of the 2053 Net Zero Target
- Turkish Statistical Institute Greenhouse Gas Statistics (2024)
- UN CC: Learn and CoM Platforms

Source





Thanks!

Question and Answer

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Module 3: Reporting and Review

Submodule 302: EU and National Climate Policies

302 A: Development of Türkiye's Climate Policies

Instructor: Yasemin Somuncu

SUSTAINABLE ENERGY IN THE BLACK SEA BASIN AND WORK IN PLANNING AND MONITORING CLIMATE ACTIONS. UNION

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Agenda

- History
- Legislation
- Strategy •

Future Perspective

History of Climate Policies in Türkiye

- 1992 – Rio Summit – Sustainable Development Initiative • 2001 – Became a party to the UNFCCC • 2004 – First Sustainable Development Inventories
- 2009 – Became a party to the Kyoto Protocol • 2015 – Paris Agreement signed • 2021 – Paris Agreement ratification, new phase • 2025 – Climate Law



The Multidimensionality of Climate Policy

- Initially environmentally focused → gradually integrated with economy, energy, and development • Multi-stakeholder structure including municipalities, NGOs, and the private sector

National Strategies and Institutional Structure

- National Strategy Document (2010-2023)
- Action Plan (2011-2023): targets + indicators + timeline •

Ministry of Climate Change Presidency established in 2021 • Roles of
the Ministries of Energy and Agriculture, Turkish
Statistical Institute (TÜİK) • Climate Law of Enacted in 2025

Corporate Coordination

- Climate Change and Air Management Coordination Board
- SECAP preparation for municipalities
- New themes: climate finance, green transition

Legislation and International Commitments

- UNFCCC (2001) → Kyoto (2009) → Paris (2015–2021)
- 2030 target: limiting emission growth •

Environmental Law, Renewable Energy Law, Energy Efficiency Law

Updating Legislation

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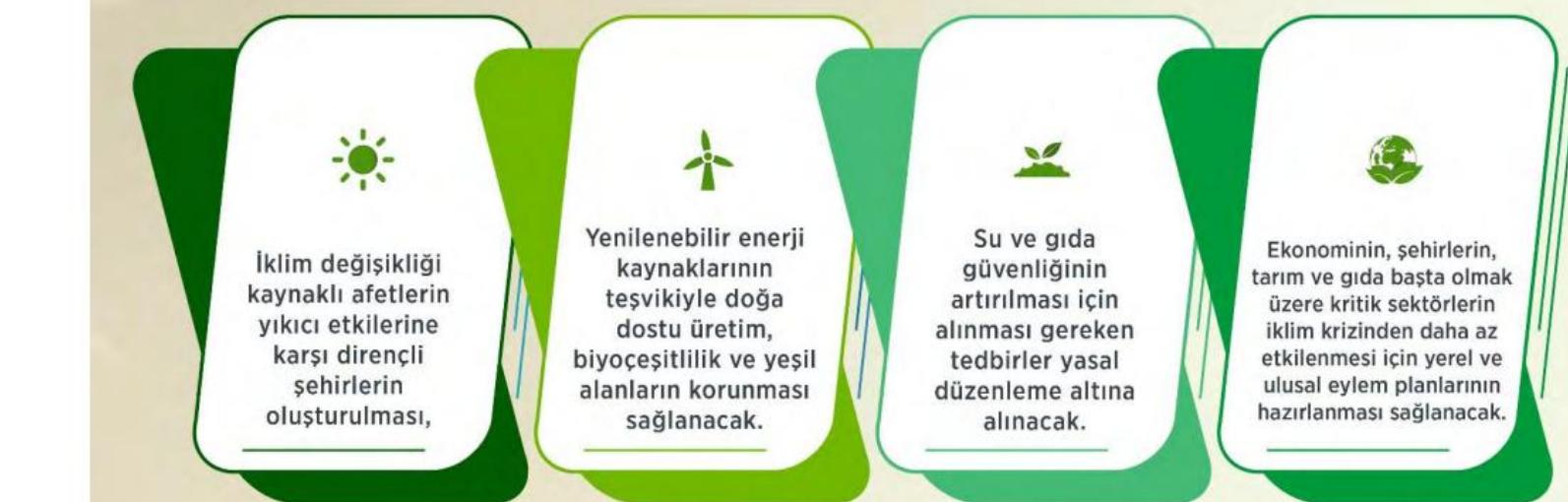
- Compliant with EU **acquis** •

Low-carbon technologies in transport, building performance, industrial emissions • Article 56 of the Constitution – environmental protection obligation

- Climate Law since 2021
- The studies will come into effect in 2025
- Will cover the environment, energy, agriculture, and transportation sectors.
- To concretize constitutional responsibility within a legal framework.

Climate Law

TÜRKİYE'NİN İLK "İKLİM KANUNU" İLE NELER SAĞLANACAK?

T.C. ÇEVRE, ŞEHİRCİLİK VE
İKLİM DEĞİŞİKLİĞİ BAKANLIĞI

- National Strategy + Action Plan
- National Energy Efficiency Plan •

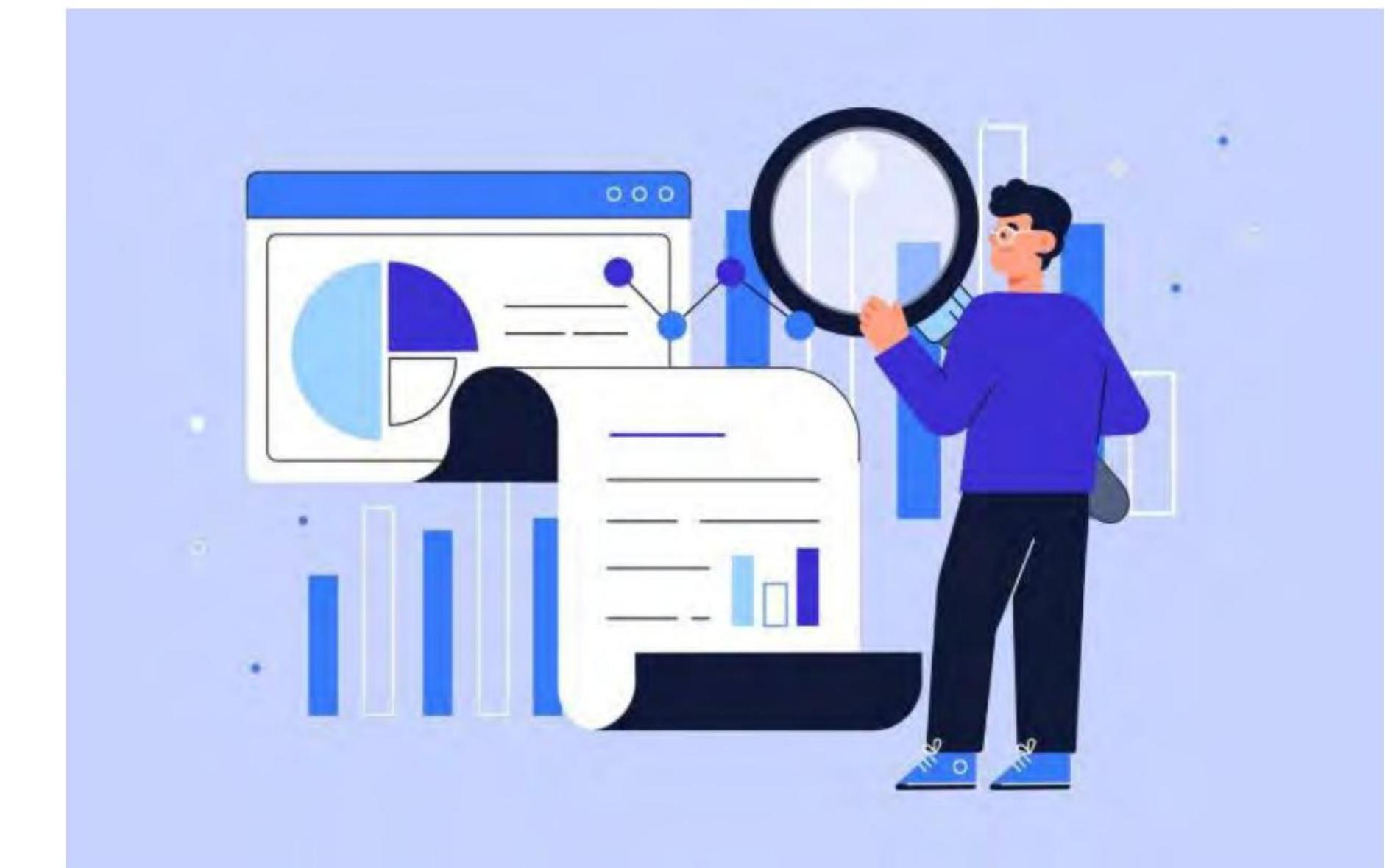
Documents on waste, transportation,
renewable energy and forestry

Policy Documents and Action Plans



MRV System in Action Plans

- Monitoring, reporting and verification
- Process tracking with performance indicators
- Corporate capacity + awareness + financing dimensions





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- Climate Law
- National Contribution

Statement (NDC) • Green Deal

Action Plan • SECAP obligation for municipalities

New Documents



The Dynamic Nature of Plans

- 'Why do you think these plans should be kept up-to-date?'
- Policies are not just documents, they are a tool for governance.



Recent Developments and the Future

- 2053 Net Zero target (after 2021) •

Energy transformation – solar and wind investments

- Zero Waste, green infrastructure, circular economy





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the European Union

NEXT Black Sea Basin

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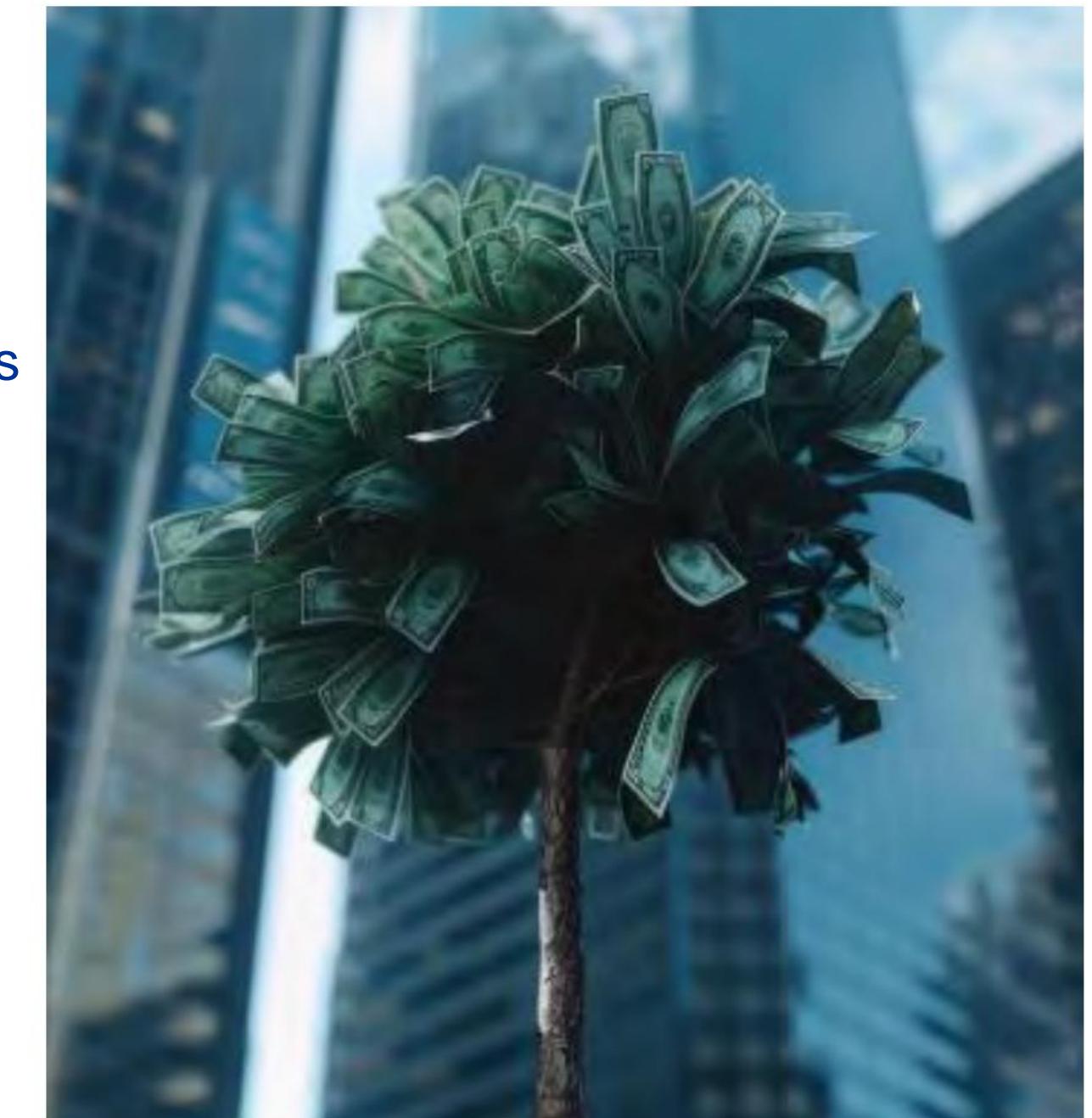
Application Examples

- Metropolitan municipalities are preparing SECAP (Security Environment Improvement Plan), Edirne Uzunköprü Municipality's SECAP has been approved • EBRD, EU-supported climate projects
- Transportation, agriculture, and industrial projects that reduce carbon footprint



- Access to funding for climate projects
- Preparation for the establishment of a carbon market
- The MRV system should be brought into compliance with EU standards

Green Finance and Carbon Market





Future Scenario

- 'Do you think the 2053 target is realistic?' •

How can your organization contribute to achieving this goal?

2025

Transformation in Management

- Local government – private sector participation
- Just transition – multi-stakeholder system
- Border carbon adjustments and alignment with the EU



- The participant shares a development from their own organization.
- Analysis is performed as a group.
- Reporting-monitoring-
How can the update be integrated?

Study





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Thanks!

Question and Answer